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ORIGINAL ARTICLES.

CLINICAL ASPECTS OF RENAL CANCER, WITH REPORT OF TWO CASES.[1]

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Malignant disease of the kidneys, regarded from a clinical point of view, occurs either as a primary or secondary lesion. Clinically the latter is of little importance, and the present study will be confined to the primary form. For various reasons the subject is of more than common interest:

First.—This lesion is quite rare, and our knowledge of it dates back only to very recent times. When Valleix[1] published his work in 1853, so few cases of renal cancer had been observed that he remarked: "One may say that no authentic case has occurred where malignant disease was limited exclusively to the kidney. Roberts[2] has been able to contribute only four cases as the result of his personal observations. During twenty-two years there were only fifteen cases of malignant renal disease in Guy's Hospital, London. All writers agree as to its infrequency.

Second.—The great diversity of the symptoms and the course of the disease render the clinical aspects of it varied, and sometimes not a little difficult.

Third.—The number of other pathological conditions which more or less resemble it, incite the clinician to increased vigilance and care in diagnosis, and add new pleasure to his efforts.

Fourth.—The difficulties encountered in the diagnosis are often very great, and the errors which have been recorded are quite numerous. Bright declares that among abdominal tumors, few are so difficult to recognize as tumors of the kidneys.

Cancer of the stomach and of the liver, pregnancy, ovarian tumors, enlargement of the spleen, abdominal aneurism, have all been pronounced as present in persons who afterwards were found to have malignant disease of the kidneys. More than forty years ago Rayer[3] called attention to a class of cases in which renal cancer remained entirely latent throughout its whole course to the fatal termination. Between this class and that in which characteristic tumor, pain, and hæmaturia distinctly signalize the disease, there are numerous cases in which the clinical phenomena group themselves in the most strange, unexpected and puzzling manner. May I not, then, venture without presumption to occupy this learned body for a few minutes with the clinical aspect of so important and interesting a malady, and one which, owing to the boldness and the genius of modern surgeons, has recently acquired new claims to our attention from a therapeutic standpoint.

Etiology.—The causation of malignant, renal disease has been but imperfectly elucidated by clinical investigation. That it may be congenital, seems likely from Dr. Williams's case of myo-sarcoma of the kidney, reported in the Transactions of the Pathological Society of London for 1881. The irritation of calculi appears in some instances to have been the starting-point of, or to have roused into activity a hitherto latent tendency to the disease. In the *Transactions of the Pathological Society of London*, for 1881–82, Coupland reported a case of medullary cancer of the kidney, associated with calculi, and another similar case appeared in the same volume, reported by N. Moore. It is also not improbable that a wider experience will show a certain relation to exist between the condition known as floating kidney, and malignant disease of this organ. Such association was recently observed by Dr. R. Wernacke,[4] of Buenos Ayres. In the London *Lancet* for 1885, Dr. J. B. Pollard recorded a case of carcinoma and dilatation of the kidney from which he had removed a large number of calculi during life.

Age exerts a powerful influence here, as in malignant diseases elsewhere. Although histological considerations are purposely avoided in this paper, it may be stated in passing that sarcoma of the kidney is more frequently encountered in children. Yet primary sarcoma is very rare in the kidney as well as in other glands. J. Bokai, of Buda Pesth, recorded in 1884 the case of a boy only 1½ years old with sarcoma of the kidneys. In 1883, Dr. Alloway published in the Philadelphia *Medical News* the case of a sarcoma of the kidney in a child. But this is not always the form met with in childhood, as shown by J. J. Topliff's case of encephaloid of the kidney in a boy 7½ years old. (*Denver Medical Times*, 1884.)

External violence certainly seems to exert some

[1] Read in the Section on Practical Medicine at the Thirty-Seventh Annual Meeting of the American Medical Association.

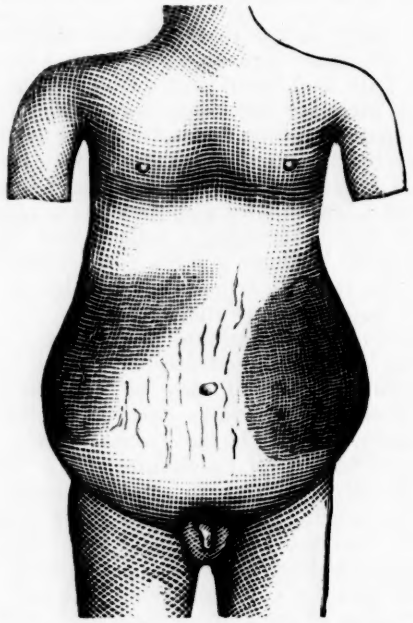
[1] Valleix. Guide du Médicin Praticien. Paris, 1853.

[2] Roberts. Urinary and Renal Diseases, p. 516.

[3] Rayer. Traité des Maladie des Reins. Paris, 1841.

[4] Renon Flotante Canceroso an de Cer. Med. Arg. Buenos Ayres, 1883–84.

influence in the production of malignant disease of the kidneys. It is impossible as yet to decide in what manner, or degree, blows upon the abdomen, or falls, or other injuries exert this power. Brinton, Manzolini, Jerzykowsky and Chomel report cases illustrative of this point, and I have myself observed a case in which a fall was followed within three months by phenomena culminating in well-defined, malignant renal disease. An interesting fact in this connection is that in some of the cases reported the malignant disease did not manifest itself until years after the injury had been received.



Primary cancer of left kidney, secondary implication of the right kidney, and ascites.

Case 1.—Primary cancer of left kidney, secondary implication of liver and right kidney, and ascites.

Willie Lairing, aged 6 years and 9 months, was brought to me on the 7th of October, 1883. Two years ago he had measles, but not very severely, and sometime before he had whooping cough, which lasted two months. He had completely recovered when attacked with measles. About a year ago he had a fall, and his side struck against a large stone. He complained at the time, and cried from pain for a day or two. Nothing more was remarked except that his mother thought that he had fever now and then. Nine weeks prior to his visit to me his mother noticed a lump in his left side. It was hard and not tender under pressure. During the last winter he passed bloody urine for several days; hæmaturia returned in the Spring, and again a few days before his coming to see me. About three months ago he began to complain of pain at the pit of the stomach, generally more in the morning, but has been free from it for several days. He has lost flesh; appetite bad, but is now improved; bowels were constipated until recently, when, as a result of medicine they have acted regularly. He sleeps well.

Present Condition.—Rather sallow and thin, but not markedly anæmic. The tongue clean; pulse 90; respiration 20; temperature 99 Fahr. The liver is enlarged and somewhat nodulated. In the left iliac and hypochondriac region there is a hard nodulated tumor, which descends to the iliac crest; anteriorly it reaches nearly but not quite to the median line. It is immovable and does not descend with the diaphragm. On the outer and posterior aspect of the tumor, is a rather soft and oval prominence, which is probably the spleen somewhat displaced, and compressed between the tumor and the abdominal wall. There is moderate ascites, and numerous enlarged superficial veins coursing over the abdomen. The right kidney is also enlarged.

Heredity, which figures so conspicuously in the etiology of cancer in general, seems to be without influence in developing cancer in the kidney. I have only found a single case in which hereditary tendency to cancer could be traced. This occurred in a patient aged 45 years, whose mother had died of cancer of the stomach. (Case of Malignant Tumor of the Kidneys. Dr. John C. Thorowgood, *Med. Times and Gazette*, Nov. 7, 1868.)

Sex appears to have a marked influence, as the great majority of cases have occurred in males.

Symptoms.—A study of the cases which have come under my own observation, and analysis of those which have been published, have convinced me that a classification of renal cancer upon a natural and clinical basis is rather difficult. The simplest and most practical division would perhaps be into regular, irregular and latent.[5] It is true some cases which have been described as latent were characterized by tumor, as in the patient of E. Gaucher. (*Bull. Soc. Anat. de Paris*, 1882.) The kidney was the seat of encephaloid, had reached double the normal size of the organ, and was never made out during life. There was a general cancerous infiltration of the peritoneum, abdominal pain, digestive derangement, frequent vomiting, alternating diarrhœa and constipation, and rapid emaciation. Nevertheless, it must be admitted that an undoubted carcinoma of the kidney may run its course to a fatal issue, without revealing its presence by pain, tumor, hæmaturia, or any other urinary disturbance. An acute diagnostician may suspect internal malignant disease, but without finding any facts to indicate its site. Such an instance is related by M. F. Colleville (*Bull. Soc. Anat.*, Jan. 1883), and is the only case, I believe, on record which can properly be called *latent.*

For practical purposes, then, renal cancer may be said to present itself under two forms:

First. The regular or typical form, which, as in other diseases, embraces the smaller proportion of cases.

Second. The irregular form, constituting the greatest number, but the irregularities, or deviations from the regular type, are manifold and varied.

It would be both interesting and profitable to undertake a subdivision of this class, were the reported cases in sufficient number; but this must be reserved for the future and probably for some other person than myself.

[5] Patino Luna, Formes Clinicales du Cancer Rénal, 1884.

Even in a typical case the access of the disease is insidious. This is especially the rule where it runs a protracted course; but, on the contrary, where rapid in its progress, the development is characterized by a certain degree of acuteness. Roberts mentions ten weeks as the minimum duration observed; and Ebstein found that the period during which objective symptoms could be observed was only five weeks.

Pain is usually the first symptom in point of time; not easily described by the patient, not localized, but radiating. It may be continuous, or occur in more or less severe and protracted paroxysms. As the morbid growth increases in size, exerts pressure upon, and contracts adhesions to neighboring organs, neuralgic pains may be caused, which are more properly regarded as complications than symptoms of the renal disease.

Hæmaturia is often enough the earliest indication that anything is amiss. It may continue for a long period, but is more frequently intermittent, and recurs again and again at irregular intervals, often enough so profuse as to be alarming, and certainly may prove a cause of exhaustion. It may in other cases be so slight as to require the aid of the microscope for its detection. In some instances this symptom comes on quite late, as in the case reported by Townsend,[6] where it preceded death by only three days. The loss of blood is painless, and in this it differs from the bloody urine of renal colic.

The urine usually presents nothing abnormal, save while hæmaturia is present, when albumen, clots and blood casts are likely to be found in it.

The development of nephritis is attended with urinary changes which are indications of this complication rather than the original disease.

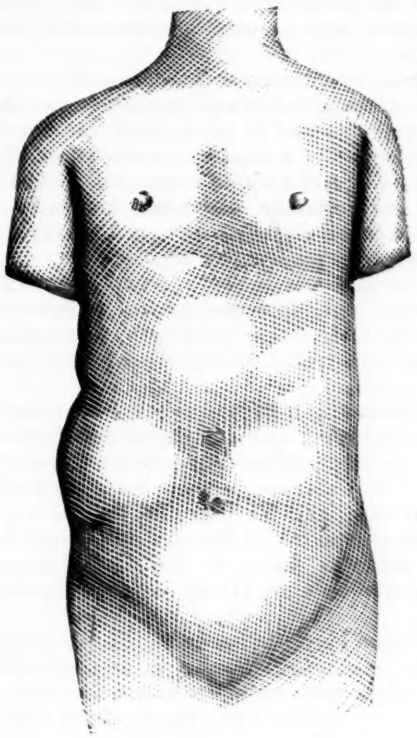
In the earliest stage tumor has not yet been formed; a little later it may still be too small to be detected. But sooner or later it generally becomes accessible and possessed of certain characteristics. In the vast majority it is unilateral, having its centre opposite the lumbar region, between the costal arch and the iliac crest. It does not descend with the diaphragm. It is sometimes perfectly smooth and uniform, but more frequently irregular, and nodulated, hard and fixed. Occasionally some parts of it are hard and others soft.

I am under obligations to my friend, Dr. Ewing Marshall, of Louisville, Ky., for the notes of a case of cancer of the right kidney in a boy 15 years of age, in which the tumor filled the abdominal cavity, and presented a uniformly smooth fluctuating surface. On aspiration a pint of purely sanguineous fluid was withdrawn.

The growth may attain huge proportions, as in the case of Roberts in which it weighed over twenty-five pounds. The abdomen becomes proportionately distended. The lower ribs become spread out and increase the general deformity.

The appetite varies, but is generally impaired. The bowels, often enough compressed, are persistently constipated, but sometimes irritation is set up: there is alternately diarrhœa and constipation, and sometimes mucus and bloody discharges. Emaciation may be very gradual, but is apt to be steady, and periods of temporary arrest are very rare. It may become extreme.

The temperature, according to my own observations, was somewhat above the normal, but others (Fagge) have found it either normal or somewhat lower.



Case 2.—Albert B., aged 34 years, born in Ireland, served as a soldier in the army from 1869 to 1874; a carpenter, married, temperate, consulted me on the 6th of June, 1884. Ten years before he had several ulcers of the penis, with suppurating buboes in the groin, but no constitutional symptoms have ever ensued. Nine years ago he had ague which lasted three or four weeks, and he has never been quite well since that time. Seven or eight months after this last illness he first noticed that something was growing in his right side, which has remained ever since, and has increased in size, and becomes the seat of pain, when he assumes an erect position or lies on the side.

Present Condition.—Patient's height 5 feet 9½ inches. Eight months ago his weight was 148 pounds, and he thinks he has not lost since then. Pulse 94, respiration 18, temperature 99¼° Fahr., appetite good. He sometimes swells up after eating, and suffers a good deal from flatulence. The bowels are loose, and sometimes move ten or fifteen times in the twenty-four hours. The passages are thin, small, and contain mucus pus and blood, and are accompanied with tenesmus. No hæmaturia has been observed, nor anything abnormal with the urine.

On percussion the area of dulness on the liver

[6] Dublin Quarterly Journal, 1868.

and spleen were found normal. A tumor was found occupying the right flank, extending from very near the inferior border of the liver, and separated from the latter by an appreciable space, it appeared to occupy the site of the right kidney; but far exceeded the normal limit, descending below the crest of the ilium, and anteriorly approaching very close to the median line. It is hard, not remarkably tender, movable, but to the same extent as a floating kidney. The anterior edge smooth and somewhat like the spleen.

The patient's statement about the history of his disease can not be taken with perfect reliance, especially as to date when he first noticed the abdominal enlargement. Yet it must have existed several years. In spite of this fact and the comparatively little pain, and failure to establish that hæmaturia had ever occurred, no other diagnosis than malignant tumor of the right kidney seems to be warranted.

The circulation is necessarily impeded. Œdema of the lower extremities and ascites set in especially towards the close. The pulse varies, but is generally somewhat accelerated, though it may be abnormally slow.

The presence of a bellows murmur over the tumor has been observed, and is probably due either to excessive vascularity of its structure or to arterial compression. Its existence must not be lightly attributed to an aneurism, and the difficulties in the way of a correct interpretation of this symptom may indeed be very great, as shown by Dr. Holmes's case of pulsating cancer of the kidney (London *Lancet*, May 31, 1885).

Respiration may become difficult, especially near the close. Anæmia soon sets in and becomes extreme. Weakness, cachexia and emaciation mark the last stage, and the scene usually closes with death by asthenia.

The Irregular Form.—In this the symptoms are subject to infinite variation, but all the cases have one thing in common, viz.: more or less marked deviation from the type already described. In some there is entire absence of pain, either spontaneous or under pressure. In others hæmaturia never occurs, no matter how well-defined the tumor may be. In other cases hæmaturia is accompanied by severe paroxysms of pain resembling nephritic colic, as observed by Bence-Jones (*Trans. Path. Soc. Lond.*, 1875). Again, death has been known to occur without any appreciable tumor having developed during the whole course of the disease.

Complications.—These are not only numerous and varied, but often of such nature as to obscure and render difficult a diagnosis. The renal tumor sometimes compresses the bowel, so as to give rise to obstinate constipation. Pressure upon the duodenum may cause troublesome and obstinate nausea, and in a case published by Rayer perforation of the duodenum had ensued.

Pressure by an enlarged right kidney may produce jaundice by compression, and more or less complete occlusion of the biliary ducts. A case was reported in Gerhard's "Handbuch der Kinder-Krankheiten," and is quoted by Patino Luna, in which cancer of the right kidney was followed by occlusion of the common bile duct, and resulted in chronic jaundice.

Ascites rarely occurs, but it was present in one of my own cases. If considerable, it may prevent a correct diagnosis. This happened in a case quoted by Luna,[1] in which the peritoneal effusion was almost the only symptom, and a cancer of the left kidney was not recognized until after the patient's death.

In a case observed by Mr. Cornil, and recorded in the memoirs of the Paris Academy of Medicine, 1865–66, cancer of the left kidney had produced complete paraplegia, with anæsthesia, and abolition of reflex movements.

Abele reported a case of renal cancer in which adhesion to the abdominal wall was followed by perforation through which a loop of intestine protruded. (Schmidt's Jahrbüch, T. V., p. 379, 1836.)

Radiating pains in the course of the intercostal, lumbar, crural and sciatic nerves are mentioned as not rare in renal cancer, and are explained by direct or indirect compression by the renal tumor upon the nerve trunks.

Inflammation, not only of the cancerous kidney, but of its fellow, has frequently been observed. And pyelitis and inflammation of the ureters have also been known as complications.

The supervention of intense peritonitis has been noted, due either to the irritating presence of the neoplasm, or to hæmorrhage into the peritoneum. Dr. Armand Siredey has recorded the history of a woman 53 years of age, with carcinoma of the right kidney, and of the brain, in whom hemiplegia supervened some time before death.

Diagnosis.—The published errors in diagnosis with regard to cancer of the kidney, render it more than probable that many others have been committed which have never been discovered or divulged. To enumerate even a few of the mistakes which have been recorded would extend this paper beyond its due limits. Nothing could more forcibly illustrate the difficulties so frequently hedging around a diagnosis of this lesion, nor would I desire a better justification for having invited your attention to the subject.

Among the conditions between which a differentiation of renal cancer must be made, and with which it is known to have been confounded, are, cancer of the stomach. That under certain circumstances renal cancer and cancer of the stomach may present a strange clinical similarity, is demonstrated by the fact that cancer of the stomach has been mistaken for cancer of the kidney (M. Chesnel, Hôsp. Necker, 1884), and that cancer of the kidney has been mistaken for cancer of the stomach (Mallassez, Soc. Anat., Paris, 1870). This error would be most likely to occur when, owing to increased weight and bulk, a gastric cancer drags down the organ so as to place the pylorus considerably nearer the location of the kidneys than is common. The opposite mistake would be possible only where a renal cancer gives rise to excessive nausea and vomiting, so as to obscure the renal, and attract undue attention to the gastric symptoms.

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[1] Loc. cit.

Attention to the following points will generally establish the differential diagnosis:

CANCER OF STOMACH.	CANCER OF KIDNEY.
1. Vomiting is the rule.	1. Generally absent.
2. Hæmatemesis, especially in the form of 'coffee grounds,' very common.	2. Very rare.
3. Hæmaturia absent.	3. Hæmaturia generally present.
4. Tumor in epigastrium.	4. In one or the other flank.
5. Tumor small.	5. Tumor often large.
6. Tumor movable.	6. Generally fixed.
7. Tumor descends with diaphragm.	7. Does not descend with diaphragm.

Enlargement of spleen and renal cancer have been confounded (Luna). It is, of course, only when the left kidney is involved that such a mistake is likely to be made. The two differ as follows:

ENLARGEMENT OF SPLEEN.	RENAL CANCER.
1. Absence of descending colon in front of tumor.	1. Descending colon may be found in front vertically dividing the tumor in two lateral halves.
2. Border of tumor thin, rigid, smooth, but not rounded.	2. Border often irregular, nodulated, rounded, not thin.
3. Extends upwards under the ribs.	3. Less so.
4. Direction of tumor downwards and inwards.	4. Downwards toward iliac fossa.
5. Very movable.	5. Generally almost or quite Immovable.
6. History of malaria or leucocythemia.	6. Absent.

Hydro-nephrosis and renal cancer also present certain resemblances and dissimilarities, which are brought out in the subjoined table:

RENAL CANCER.	HYDRO-NEPHROSIS.
1. Generally unilateral.	1. Generally unilateral.
2. Tumor hard or irregularly soft.	2. Soft.
3. Rarely, and then imperfectly, fluctuating.	3. Fluctuating.
4. Tumor permanent.	4. Liable to subside suddenly at times, with copious discharge of urine.
5. Tumor often of enormous size.	5. Not so.
6. Tumor generally fixed.	6. Moveable.
7. Does not descend with diaphragm.	7. Descends with diaphragm.
8. Tumor of rapid growth.	8. More slow.
9. Cachexia.	9. Absent.

The differential diagnosis between cystic degeneration and cancer of the kidney is established by attention to the following points:

CYSTIC DEGENERATION.	CANCER.
1. Bilateral.	1. Generally unilateral.
2. Tumor may be large.	2. Tumor attains an enormous size, much larger than is ever reached in cystic degeneration.
3. Tumor movable; it rises and falls with the diaphragm.	3. Tumor stationary, and does not move with diaphragm.
4. Runs a rather slow course.	4. Runs a more rapid course.
5. No cachexia.	5. Cachexia sets in early, and is well marked.

Various uterine and ovarian enlargements have been confounded with renal cancer.

Malherbe (Soc. Anat., 1872) relates a case in which cancer of the kidney was mistaken for a fibrous tumor of the uterus. And Dr. Greenhalgh (St. Barthol. Hosp. Rep., Vol. 85) gives the history of a patient in whom a tumor, supposed to be ovarian, acted as a complication in two pregnancies, and the propriety of removal was about to be entertained when the patient again became pregnant. She died without obvious cause three weeks after delivery at the full term, and the autopsy showed that the supposed ovarian tumor was really the left kidney in a very advanced stage of disease. It weighed twenty-seven pounds three ounces. Pregnancy and renal cancer were mistaken for one another when fœtal diagnosis was not so well understood and practiced as it is now, but at the present such an error could hardly be made or adhered to for any length of time by an intelligent and careful observer.

Besides the case of Lossen, which will be mentioned further on, it happened to Peaslee, of New York, and to Spiegelberg, of Breslau, to make the diagnosis of ovarian tumor, and to open the abdomen, when the disease proved to be renal cancer. Both patients died within three days.

The points involved in the differentiation between the two conditions are:

RENAL CANCER.	OVARIAN TUMOR.
1. Generally unilateral.	1. Generally unilateral.
2. Develops from above.	2. Develops from below.
3. Tumor hard.	3. Soft.
4. Rarely fluctuating.	4. Generally fluctuating.
5. Irregular, nodulated.	5. Generally smooth.
6. Loop of intestines in front of tumor common. Dulness to the outside.	6. Intestines pushed aside, resonance on outside. Dulness central.
7. Aspirat'n brings pure blood and sometimes cancerous material at point of needle.	7. Aspiration brings away characteristic ovarian fluid.

Hepatic and renal tumors have not seldom been confounded. Rayer and Frerichs both mention cases in which renal cancer had been pronounced cancer of the liver. It is true the two may coexist, as was observed in one of my own patients; but as a rule attention to the following points will distinguish them:

Cancer of the liver lies much higher and generally presents an irregular nodulated border running more or less diagonally across the abdomen; the intestines never lie in front of it. Jaundice is common, hæmaturia is rare. In renal cancer the tumor occupies a lower point, rises vertically and not so high; ascending colon generally lies in front of it. There is an appreciable interspace between the margin of the liver and the upper border of the renal tumor. Jaundice is very rare and hæmaturia common.

Many other diseases from which renal cancer is to be diagnosticated can be mentioned only in passing. Hydatids of kidney, perinephritis, psoas-abscess, enlargement of mesenteric glands, abdominal aneurism, ascites, distension of cæcum and ascending colon, etc.

The judicious employment of purgatives to empty

the bowel, the practice of auscultation and percussion, the use of the aspirator and attention to the history of the case, will generally suffice for a correct apprehension of the nature of the disease.

Duration and Course.—The impossibility of ascertaining the period when morbid processes in internal organs first begin, makes it equally impossible to to designate with precision their duration. The insidious development which oftentimes characterizes cancerous disease of the kidney still more increases the difficulty, so far as this latter is concerned.

That renal cancer is in most instances unilateral, may in part account for the fact that it runs a more slow course than malignant disease of any other internal organ.

In children it is more rapid, the average duration in them being about seven or eight months.

In adults the average duration has been estimated at two and a half years, but this period has been so greatly exceeded in well authenticated cases, that one must necessarily maintain a prudent reserve when speaking of the possible duration of this disease in individual patients. Roberts has recorded cases in which the disease lasted four, six and seven years, respectively, and Jaccoud relates a case which did not last less than seven years. In some instances the fatal termination has been reached in five weeks.

Termination.—This, in most cases, takes place by gradual exhaustion from cachexia, or repeated hæmorrhages. Bright mentions a patient in whom death speedily followed rupture of a cancer, with hæmorrhage into the peritoneum. In some instances acute peritonitis has ushered in a fatal result.

Intercurrent inflammation of the kidneys, or of other organs, viz., the lungs, has been the immediate cause of death in some cases.

Secondary cancerous affections of other organs have not seldom determined a fatal issue. A fatal embolism has been induced either by cancerous vegetations, or by simple thrombi in the veins.

Uræmia is a possible, but very rare, mode of termination. Only two instances can be found specifically recorded. The first, by M. Butte, was a latent cancer of the left kidney (*Progrès Méd.*, 1873); the second by M. F. Colleville, carcinoma of the right kidney (*Bulletin Soc. Anat.*, January, 1883).

Treatment.—The medical treatment must, in the absence of any specific remedy, necessarily be limited to the treatment of symptoms, and the administration of palliatives. Yet even in this unpromising field the healing art is not without power to stay the ravages of a destructive disease, and to prolong and ameliorate existence.

In the treatment of malignant renal disease, surgery has achieved some very brilliant, if not always permanent victories. Removal of the kidney has now been performed so often that it must be regarded as an established operation. It is only with reference to its applicability to the relief of malignant disease of the organ that it can be considered in this place. Aside from the dangers incidental to the operation itself, and to the patient's general condition, it must be remembered that, while renal cancer is generally unilateral, yet both kidneys may be involved, even when only one appears to be so. In fact, when both kidneys are affected, one is generally in a much more advanced state of disease than the other. In the *London Medical Gazette*, for February, 1847, is recorded the case of a child, thirteen months old, in whom both kidneys were the seat of encephaloid; the tumors were enormous and filled the abdominal cavity. In one of my own cases both kidneys were involved, though not in the same degree.

It is possible also that the patient may have only one kidney, and that one the seat of malignant disease. Such a case came under the observation of Dr. F. E. Manby, who published the history in the London *Lancet* for 1885. The patient had cancer of the right kidney, and there was congenital absence of the left.

While one kidney is the seat of malignant growth, the other may be otherwise diseased. Under such circumstances, the operation would only precipitate a fatal result.

In many cases the attempts at extirpation of the kidney for malignant disease have been ineffectual, and in others were speedily followed by death, either from shock, or peritonitis, or some other accident. The following cases of extirpation of the kidney for malignant disease are highly illustrative of the scope and merits of the operation. Other cases may have been published, but if so have escaped my attention. In 1877 Mr. Jessop, of Leeds, removed an encephaloid tumor of the kidney from a boy 2½ years old. The little patient made a good recovery, but the disease returned in about eight months, and proved fatal in a few weeks. In 1878 Martin, of Berlin, removed a sarcoma of the kidney weighing 28 ounces, from a woman 53 years of age. She was out of bed on the eighth day, returned to her home on the seventeenth day, and was still alive two years later. In 1879 Lossen, of Heidelberg, performed nephrectomy upon a woman 37 years old, on account of angiosarcoma of the right kidney, which was movable, and the operator mistook it for an ovarian tumor. In six weeks she had entirely recovered, and remained in good health up to eighteen months later. In 1881 Czerny removed a large vascular sarcoma of the kidney from a man 53 years of age. In two months he left the hospital perfectly restored to health. At the time of operation he was cachectic, and suffered from constant nausea.

In 1883 T. Gaillard Thomas published in the *New York Medical Journal*, a case in which there was complete destruction of the kidney from malignant disease, and where he successfully effected a removal of the morbid mass by operation. In 1884, Jas. R. Chadwick, of Boston, extirpated a retro-renal sarcoma by abdominal section. In 1885 R. J. Godlee successfully removed a tumor of the right kidney in an infant by abdominal incision. It is likely that it was malignant, as it recurred after a time, and caused death. (*Trans. Clin. Soc. London*, 1885.)

THE EFFECTS OF CERTAIN PHILOSOPHICAL PRINCIPLES THAT HAVE NOT BEEN NOTICED, IN AID OF THE CIRCULATION OF THE BLOOD.[1]

BY FREDERICK N. HUSTON, M.D.,
OF ROCKLAND, ME.

I assume that the subject of the circulation of the blood is not so well understood in the minds of the best scholars and physiologists, that light from a source that has no great pretensions to study and investigation would not be acceptable. I propose to treat the subject in the light of certain philosophical principles, self-evident facts that need no demonstration from experiment. I need not recapitulate all that is known and believed in relation to the circulation of the blood.

I commence with the subject of *cohesion*. "Blood has greater cohesion than water." This expression is used[2] in reference to the increase of friction caused by the increased area of the walls in the branches of an artery. I claim there is no difference in the cohesion of liquids. Cohesion is a peculiar property of all liquids, whereby they resemble the character of solids when acted upon by excentric forces. Where no body of the nature of air or gas is present in a liquid, or can reach any portion of it, and an excentric force is acting upon it at one point, it will act upon the entire volume of the liquid as it would upon a solid body. This fact is unscientifically illustrated by a yoke of oxen hitched to one end of a log and dragging the whole body. And further, I believe, it opens the way to a new investigation of the forces employed in the circulation of the blood. The venous system of vessels is compared by some writers to a *cone*, with its apex at the heart and its base represented by the periphery of the body. It would be quite as proper to say that its base is connected with that of another *cone* similarly representing the vessels of the arterial system.

Let us suppose for a moment that the excentric force (call it a suction force or any other), at the apex of the first *cone*, be just what is stated by the best physiologists of the day; while the ventricular systole acts like a force-pump at the apex of the second cone. It is no doubt true that friction offers an increasing resistance to the arterial current, as is stated by all writers. In the branches of an artery resistance from friction increases in a ratio with the increased area of their collective walls—the united calibre of the capillaries being 700 times greater than that of the aorta. Considering this increased resistance from friction, in the branches of an artery, while no backward flow takes place from its recoil, philosophy would teach us that the arterial wave could not fall as rapidly as it does in the trunk, unless some other physical force, strong enough to overcome the increased resistance in the branches, were acting at the same instant. Such a force could only act at the apex of the *venous cone*, or at the heart, and produce such effects upon the arterial wave.

It might be supposed that such a force at that point, which some would call a *suction force*, would not only cause the arterial wave to subside suddenly, but produce a fall or collapse of the flaccid walls of the veins at the same instant. This would not be possible. Remembering the law of cohesion, whereby liquids are acted upon in this way, as if they were solids, and recalling what has been stated and is well known of the increased resistance from friction in the multiplying branches of the arterial system, *and applying a rule that should work both ways*,—to the decreasing wall surface or area of the venous cone, it is self-evident and plain that the force at the apex, being the same to the square inch in the collective branches, while the resistance from friction is diminished in the trunks, would produce an intra-vascular pressure throughout the venous system, that would prevent collapse from outside atmospheric pressure. To illustrate this point: Suppose the suction hose of a fire engine were constructed something after the form of the *venous cone*, then, provided that the status were the same as that required for the effect of cohesion (a compact mass of water without the presence of air), the firm stiff walls required by present use to resist outside pressure would not be necessary.

This leads me to say something about cohesion in connection with the so-called suction pump, before continuing my subject. The question is supposed to have been settled by philosophers in favor of atmospheric pressure. If the cylinder of a pump contains a compact mass of liquid (as water) and no air can pass the piston while rising (if that be possible, as it must be in the force pumps of steam engines into which air is purposely admitted), the liquid is raised by cohesion and the force employed. If air be present, or passes the piston while rising (an isolated body of air, large enough to expand and occupy the area of the cylinder at one point), the liquid is raised by the atmospheric pressure, and only to the height that will balance the atmospheric column. The syphon also illustrates the effects or the power of cohesion in raising liquids. If the liquid in the syphon be a compact mass, the force of gravity in the long arm acting through the principle of cohesion, will raise the liquid in the short arm to the height of the apex *and above that which would be supported by atmospheric pressure.* But if there be an air bubble at the apex of the syphon, the liquid will be raised in the short arm by atmospheric pressure, and only so far as the pressure will support it.

Continuing my subject after this digression, I take up the force which I have supposed to act at the apex of the *venous cone*. The conditions about the heart, inside the chest walls, and outside of the body of the lungs must be something like that of a compact mass of liquid in the cylinder of a pump or the pipe of a syphon. There are solids and liquids, but no *free air*. But pressure of air in the cells of the lung might affect those conditions as it would not on the walls of a pump or syphon. The cells of the lung yield to the general expansion of the chest and the pressure of air; but at the same time there is equal air pressure upon the vessels opening into the auricles that there would be upon water entering the

[1] Read in the Section on Practical Medicine, at the Thirty-Seventh Annual Meeting of the American Medical Association.

[2] Reference Hand-Book of the Medical Sciences, 1885, vol. 1, p. 565.

cylinder of a pump. If a cavity were suddenly formed about the heart (if it were possible), at a time when the auricles were empty, and it were to be filled by the effect of outside air pressure, it seems evident that blood would be forced into the auricles for that purpose, sooner than the expansion of air in the cells of the lung could accomplish it. Besides, the outside air-pressure, through the bronchial tubes, would not be likely to reach distant cells expanding from any other cause than general expansion of the chest; so that if atmospheric pressure were alone employed in filling such a cavity, the pressure upon the vessels and their contents that open into the auricles would meet with no resistance, while the air in the cells would meet the resistance of the cell walls, besides having no power but its expansive force.

While this explanation of atmospheric pressure filling the auricles might seem possible or probable, according to accepted theories, its true value and effect is to show how atmospheric pressure may act on the circulation, while *another power* is doing the principal work. And that power is no less than the *excentric force* of the contracting ventricles—the contents of which during systole are replaced, through the property of cohesion in liquids (or liquids and solids), by those of the auricles during diastole.

Whatever other forces assist or retard this effect of the contracting ventricles, it results entirely from the law of cohesion. I have shown that the conditions inside the chest walls and outside of the body of the lungs, were such as are required for the effect of cohesion—a compact mass of liquids and solids, without the presence of free air. I have also shown the possible and probable effect of atmospheric pressure in producing or preventing diastole of the auricles. I have shown the resistance from friction, less in the venous trunks than in the collective branches; while cohesion is a property of liquids whereby they resemble solids, when acted upon by a excentric force. I therefore make this statement: that while no free air can reach the parts inside the chest walls and outside the body of the lungs, nor the blood in the vessels—especially those of the venous system, *each contraction of the ventricles is a force exerted with the same if not greater effect on the venous circulation, as on the arterial—not through vis-a-tergo, but through cohesion.* The blood in the ventricles is united by the cohesion of the liquids and solids outside with that which flows into the auricles, as if it were one current; *and the same force which expels one from the ventricles, acting by* the law of cohesion produces diastole of the auricles.

The effect of free air in the chest is well known, and the explanation of the great disturbances produced thereby is one of the many instances where Science is diffident of her own powers. How much the expansion of the air in the cells of the lung interferes with the circulation, and at the same time furnishes evidence of the truth of this theory, is shown thus: Let any gentleman present make a strong inspiration, fixing the chest in that state for a half minute—at the same time placing his finger on the radial artery. If he has never noticed the effect before, he will be surprised at the almost immediate weakening of the pulse and perhaps its disappearance, and at its returning strength following expiration. There can be but one explanation of this result. The air cells are not only filled with air, but are fixed in that condition, whereby the effect of expansion continues to increase their capacity at each systole of the ventricles, until they act after the manner of free air in the chest—lessening but not destroying the effect of cohesion in the diastole of the auricles.

I must apologize for not noticing many important facts concerning the circulation of the blood. The time at my disposal and poor health are my excuse. I have to confess great obligations to Dr. Francis E. Hitchcock, of this city, who presents this paper to this Association, for the benefit of his experience and the aid of his friendly interest. I have not been able to assume a scientific nomenclature, such as the dignity of this subject, and this convention of physicians and surgeons have a right to expect.

But before closing I propose to notice a few points of fact and experience. "No explanation of symptoms caused by air in the blood."[1] From what I have noticed in my professional experience, in several instances where I have believed air entered the veins during hypodermic injections (the *modus* of which I will try to explain hereafter), the symptoms and sensations are the same as those experienced in a lesser degree, sometimes, during the act of vomiting when the veins are distended by muscular contractions and the fixed inspiration of the chest.

Let us suppose for a moment the effect of a globule of air (so to speak) entering a vein at the point of a hypodermic injection. Such a body of air would expand in the direction of the heart, by its own force, with that acting upon the blood in the vein, until it occupied the auricle in diastole. This appears actually to take place, from what has been learned by experiment and after death. But it would not take place if the venous blood were impelled through its channels by a *vis-a-tergo*, or muscular contraction, or by outside atmospheric pressure. The air globule would be compressed by any or all of these forces, instead of expanding into a thousand air bubbles, filling the cavities of the heart. The effect of air thus entering the vein is realized in the symptoms. The auricle is too quickly filled with rarefied air mixed with blood, in the form of air bubbles. The contracting auricle closes the superior valves, and if no air bubbles find their way into the superior vessels, intra-vascular pressure must be suddenly increased in them from other causes. The loss of cohesion by the entrance of air would take away that power, which not only aids circulation, but counteracts the effect of gravity upon the inferior vessels.

Whatever may be the effect of valves in the inferior veins, toward relieving gravity in the lower vessels, it must be remembered there is another column of blood, without valves, pressing downward with all the force of gravity, as well as that of the arterial wave. If these lower vessels, whether arteries, capillaries or veins, were compelled to sustain such a pressure it is easy to see what the effect would be.

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[1] Reference Handbook of Medical Sciences.

But fortunately, the force which acts throughout the venous cone, in the direction of the heart, reaching even the arterial wave, so far unloads the inferior vessels, that the effect of gravity during the interval this force is at rest, can do no more than fill these vessels to a normal tension.

I will now explain what I believe the *modus* of air entering a vein during hypodermic injection. Some years ago I attended a patient to whom I administered hypodermic injections of morphia several times a day, for two or three weeks, during an interval of more than three years. I noticed the symptoms of air entering the circulation a considerable number of times, when the unusual bleeding that invariably occurred convinced me that I had punctured a vein. Making the injections very slowly, I believed I avoided those unpleasant effects, so that they did not occur as frequently as before. Within the past year I have attended a similar case, and have often noticed similar effects, when I have believed that I had punctured a vein. During the past four months, I have tried the expedient of making the injection while the patient held his chest at full inspiration—making the injection slowly as before—and in more than 300 injections of the contents of a full syringe, have not once noticed the unpleasant effects, that I have known to occur twice on the same day previously when I had used great care to avoid them. I do not claim this statement as authority until further trial.

The explanation I offer for employing this expedient is the following: I believed that when the air cells were fixed in inspiration, their contents would expand, and after the manner of free air in the chest, would weaken the excentric force exerted upon the venous cone, as it has been seen they do the concentric force, or pulse wave exerted upon the arteries; and hence there would not be so great a force to induce the entering of air into a punctured vein.

I will next try to show how I believe air may enter the circulation during a hypodermic injection. The fact that it does, while the syringe contains no air, cannot be denied, or at least the symptoms, that cannot be explained by a llquid entering the vein. Suppose that a vein has been punctured by the needle, and the connective tissue about it is firm and unyielding. Suppose the injection to be made rapidly, so that the skin is distended and dilated around the needle—then if the force of the contracting ventricle is acting through the principle of cohesion upon the contents of the punctured vein, it is not difficult to understand how air (in very small bulk, fortunately) may be sucked in, as it is usually expressed, through the slightly dilated tissue about the needle, as has happened in wounds and venesection at the neck.

While the skin is sustained by the liquid injected beneath it, and the walls of the vein sustained by intra-vascular pressure, as they are until cohesion is destroyed, the puncture made by the needle through these tissues is analogous to one made through the cylinder-wall of a pump.

The limits of this paper allow but a brief notice of the subject of venesection. Suppose a vein in the arm is to be opened, and a ligature has been applied in the usual manner. The force acting upon the venous system through cohesion is not lessened in the veins below the ligature, although the current or flow is diminished at that point. It is owing to these conditions that the veins below become greatly distended, receiving more blood than the ligature above will permit to flow through the narrowed lumen of their trunks. These veins are distended, not suddenly, as from loss of cohesion and the effect of gravity, but slowly; hence the sensations and symptoms are of correspondingly mild effect. Suppose the vein to be opened. The valves in the collateral vessels will be closed at each systole of the ventricle and corresponding diastole of the auricle. They open during the systole of the auricle, through the effect of intra-vascular pressure; and the regular flow of blood at the opening is due to the contractile force of the distended vessels, that receive their supply, at successive intervals, from the choked and over-filled veins of the collateral circulation. This explanation may not seem clear without illustration, but I believe it will bear the test of philosophical criticism.

If the ligature be removed before the opening is closed, the vein above is quickly emptied of its contents by excentric force and cohesion of the blood, and is closed to the entrance of air below, by outside air pressure. But, unfortunately, this result is not always prevented by outside air pressure, as in those cases where air has entered an opening at the jugular. It may have occurred oftener in amputations than it has, but for the fact that the heart's action is greatly weakened by the shock of operation.

I will close with a brief notice of the sounds and impulse of the heart. If an *excentric force* is acting upon the venous cone, as I have described it, the blood must enter the auricles (especially the right) with some force of *momentum*. We are all familiar with the sound and shock produced by the momentum of water in a pipe, when the cock has been suddenly turned, and the stream shut off. The sound is suggestive of the first sound of the heart; and the thrill and jar received by the pipe is suggestive of that received by the chest, when the heart is in violent action. The two sounds are different and distinctive; and yet there is a similarity, as if they proceeded from a similar cause. I believe, then, that the momentum of the blood, as it fills the auricles (especially the right), and while its current is stopped for an instant, furnishes the first sound of the heart, as well as the impulse that may be felt at different parts of the chest, according to the position of the body, in some cases of enlargement of the heart. Probably I shall not find any to disagree with me, when I say that I believe the second sound proceeds from the momentum backward of the arterial blood, due to the recoil of the arteries and the closure of the valves at the heart. It is no backward flow of the arterial blood (in a strict sense) which causes a backward momentum; but the recoiling arteries, that shorten during the systole, lengthen during their recoil. This would produce a slight shock of momentum and a sound similar to the first, shorter and in a different key.

TREATMENT OF CONSTIPATION.[1]

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The physiological resources—or, better still, the resources answering to physiological indication—which the physician has at his command for the relief and cure of chronic constipation, may, for purposes of analysis and classification, be referred to three subdivisions.

First.—Chronic constipation is quite often habitual constipation, and is to be most effectually combatted by habitual and systematic attention to the demands of nature in a periodic evacuation of the bowels. Success along this line involves exceptional intelligence, and resolution, and confidence, on the part of the patient. The poet Cowper has well expressed the difference of task in the formation of a habit and reformation in the stanza—

> "Habits are soon assumed; but when we strive
> To strip them, 'tis being flayed alive!"

It is far easier to swallow an occasional or a frequent pill than it is to adopt the system required for the removal of a bad habit in respect of constipation; and the patient, whose interest and confidence can be enlisted at first, too often loses faith in herself or the system, and, indeed, in the doctor. The young woman who has been so badly trained in her maternal home—and cases of this kind, throughout our best families even, are innumerable—that she has no other notion of the natural functions of the bowels than that response is to be made only to an emphatic call, an experience which may happen once in three or four days, or once a week, or less often, and who receives as a new revelation the statement of her physician that there should be alvine evacuation daily, *at a regular hour*, and the most rigid system observed in this particular, has no light occupation before her in an effort to inaugurate reform after so many years of inattention and irregularity. But such task has been repeatedly accomplished upon the condition of a fairly good constitution, of certain measures chiefly dietetic and hygienic of help, and of determined perseverence; and constipation thus cured is effectually and permanently cured.

The patient is to be instructed to select that hour of the day best in consonance with previous habits and least liable to interruption,[2] and invariably, as the hour comes round, to make an effort at stool, even though there be no solicitation and notwithstanding there should be frequent insuccess. So inevitably is man the creature of habit in every realm of his being, that the patient who invariably and resolutely attempts to perform any physiological function at a stated hour every day, will very surely, after a time, carry out his purpose; and the more especially in the present instance if he have every assistance from a carefully adapted regimen. Of course, any physiological law whatever must have intelligent interpretation; and allowance must be made for occasional departure from the usual standard. There are patients who have excellent health upon the basis of a regular movement of the bowels once in forty-eight hours; and my preceptor, Dr. Peaslee, used to report the case, observed in one of his families, where both husband and wife, then arrived at old age, had each been accustomed for many years, if not through life, to evacuate the bowels only once in nine days! It is the principle of regularity that is to be insisted upon; and a single occasion of failure or neglect, in an individual whose bad habit of constipation had been largely corrected, may cause a serious relapse into the old and depraved method, or lack of method, of life.

Details can hardly be expected from a paper which is confessedly but fragmentary and suggestive; it is to be understood that the *regimen* which is to assist the patient in the formation of a new habit, shall receive the largest construction and be the object of a special application in every case. Whatever best offers assistance, whether from the department of hygiene or dietetics, is to be laid under contribution. Such appliances as the electric battery, the electric belt, localized massage, kneading of the bowels, etc., have a high and, indeed, an essential value in some instances.

But all cases of habitual constipation, as already intimated, are not susceptible of cure by the scheme of the formation of a new and correct habit; and this for various reasons; probably those cured and capable of cure, at least as found in adult life, are quite exceptional. The patient cannot and will not persevere in the necessary effort; the bowels, long inused to overdistension and torpor, will not respond to the most positive of alimentive stimuli; help must be had from medicine, and this medicine drawn from the class of cathartics. What is a cathartic? I have frequently found occasion to say that the definition of anything pertaining to special therapeutics must squarely meet three conditions, if it is to be depended upon to convey the requisite information: It must be intelligible and concise and comprehensive. Judged by such standard, I know not where in any of all the books devoted to therapeutics, we shall find a satisfactory definition of cathartic. Fothergill approaches the requirement of the case, and yet his terms are not quite free from fault. The following, therefore, is proposed for approval or criticism: A cathartic is an agent or agency which increases both peristalsis and intestinal secretion—either element of action, ordinarily, being prominent according to the material used—with result of provoking preternaturally free and frequent evacuation of the bowels.

There is no need to remind you of recent physiological experiments which have established the fact that every agent which acts cathartically, even though the influence be of that mild degree recognized as laxative, does so by procuring both hypersecutive and increase of contractility. One agent acts chiefly on the glandular structure and the stools will be watery; another acts mostly through energized per-

[1] Read before the Gynæcological Society of Boston, May 20, 1886.

[2] NOTE.—*The hour best in consonance with previous habits, etc.* Not necessarily at early morning hour, although such is doubtless the hour observed by the majority of those who have established a habit of regularity. A short-sighted effect to force a particular hour upon a patient, who had individual reasons for the selection of some other period of the day, has been sufficient to bring discouragement and failure in some instances known to the writer.

istalsis, and the dejections are feculent, as with Epsom salts in the former case, and senna and aloes in the latter. There is one purgative, and perhaps only one, catharsis from which appears to present equivalent of action, viz., castor oil; a consideration which, together with the conjoined fact of nearly equable distribution of influence throughout the entire intestinal tract, renders this offensive medicament too often essential to the physician. With an occasional laxative in an occasional subject, energized contractility may be so little pronounced that the serous effusion evoked may remain in the bowel—unless reabsorbed—until some peristaltic is administered to procure its evacuation. But none the less is it true physiologically that the two elements specified always inhere to cathartic medication, and, in variable degrees, are always present in the operation of a cathartic remedy; and the recognition of this principle is essential to the successful employment of this class of materials.

Again, cathartics vary materially in their action regionally considered; *e. g.*, senna acts chiefly on the small intestines and aloes on the lower bowel. Some, like jalap, and especially elaterium, act so high up as, frequently, to involve the stomach in the irritation produced and occasion nausea, and even vomiting. It should be borne in mind that the selection of a cathartic, with respect of its operation cathartically upon the small or the large bowels, must have a very important bearing upon the alimentation and nutrition of the patient; for a cathartic which acts energetically upon the upper bowel and so sweeps it of nutritive material upon which the energies of digestion have been already expended, and which is *in situ* and in process of and for assimilation, depresses the patient far more seriously than does the emetic, which simply evacuates the stomach of undigested or indigestible food; while, *per contra*, the other purgative, which gives its force only to the larger bowel, can bring away little more than residual and excrementitious matter.

Still another fact must receive the attention of the physician who expects to employ a cathartic safely and effectively. Some purgative materials exert an influence, near or remote as concerns other organs, of which it is not practicable to take account in any definition of catharsis. In addition to modified action in the function of muscular and glandular structures, rhubarb and magnesia, prominently, effect important changes in the morbid condition of the mucosa of the intestine; and the fact that mercury is indicated in certain functional disturbances of the liver, and that aloes is contraindicated in morbid lesion of the rectum and uterus—familiar to every physician—are sufficient illustrations of the principle which we would emphasize.

Each subject of chronic constipation, requiring help from cathartic medication, must be regarded as a special problem, and, as it were, to be carefully solved before effectual aid can be afforded. An attempt to apply the methods of a routine practice will quite surely bring disaster or disappointment. The physiological characteristics of the prominent cathartics being already understood, it is now to be determined what are the individual peculiarities of the patient who presents himself for treatment. Is the constipation to be traced to inertia of muscle? and is this located chiefly in the large or small bowel? Or, again, is the prominent defect referable to a generally defective secretion from the glandular apparatus, or perhaps the entire canal? If it is that great gland, the liver, without the normal working of which no important task of either stomach or bowels can be healthily performed, if it is the liver that is at fault, it should go without the saying that no therapeutic measures directed against constipation can be really remedial which do not ensure the return of the bile, in proper quantity and quality, to the intestine. The researches of Rutherford, in particular, among recent physiologists, have provided us with new materials for service in this direction; but all the negative conclusions of all the physiologists from the time of Bennett have not availed to release the clinical physician from primary, if not inevitable, dependence upon mercury, in all conditions which unmistakably indicate recourse to a cholagogue.

If it is a weak and anæmic woman, whose symptoms point to torpor located in the small intestine, it will be a difficult task so to adjust medication as to restore activity, procure systematic evacuation and yet not seriously to deplete. On the other hand, the individual who habitually over-eats and who is consequently plethoric and perhaps bilious and constipated, will, in addition to a timely mercurial, find an admirable resource in the frequent use of the mildly saline cathartic waters, such as hunyadi, etc., so popular now-a-days; popular, doubtless, because their special rôle has come to be so generally recognized by the large class requiring such intervention. At the same time, it may be questioned whether the practice of the Roman epicure, in the employment of the emetic, as Seneca gives it—"They vomited that they might eat, and they eat that they might vomit," was not more physiological, as it was surely more direct in its purpose and results.

Probably no one material belonging strictly to the class of purgatives is so valuably to the physician, in the treatment of chronic constipation, as is nux vomica, classified elsewhere; and because whatever other element may be present, a deficient tonicity is quite sure to complicate the worst cases of this affection. Nux vomica is the great neurotic energizer of digestion; it is to the nervous element in digestion what pepsin is as a catalytic, and it is the great peristaltic. Many cases can be successfully treated without help of other medicine than nux vom., through dependence upon the measures specified in the first section of this paper. Still further, the consideration that nux vom. has much of the stomachic properties of the simple bitter, combined with the component power of quinia, renders it the more valuable in such application. Again, nux vom. is valuable because the energy for specifically peristaltic cathartic is much enhanced by its combination; so that, *e. g.*, the fraction of a grain of aloes may prove as effective in union with nux vom. as would a large integral dose of aloes alone.

Once more, the elimination, by the pharmaceutical

chemist, of the active principles of aloes is a fact of much importance in the treatment of habitual constipation; so far, at least, as aloetics are applicable. Thereby much greater concentration is secured, and not this alone, but the essential oil, which is largely responsible for the nauseous smell and taste of aloes, is avoided, and it is no longer obligatory upon the physician, in his offer of a purgative, to present a bulky and offensive medicament. A parvule constituted of aloin and nux vomica, aa gr. ⅓; or of aloin, gr. ⅓, strychnia sulphate, gr. $\frac{1}{30}$, with addition of gr. i ex j hyoscyamus, to be taken after meals once or thrice daily *pr. r. n.*, provides a resource more generally appropriate than perhaps any other that can be devised.

But aloetics have a wide and varied range of contraindication; it is pretty surely true, notwithstanding the assertion of some authorities to the contrary, that habitual dependence upon the smallest dose of aloes will gravely increase any active disease of either rectum or uterus. For the subject of chronic constipation, with complicating hæmorrhoids or metrorrhagia, or uterine inflammation, it is a difficult thing to find a substitute for the aloetic pill. But the introduction of cascara sagrada has rendered the task easier, and a pill made of nux vom. with gr. i–ij ext. cascara sagrada will sometimes meet the latter indication admirably.

It is an accepted statement with the therapeutic physiologist that physostigma increases secretion along the course of the alimentary canal; and physiologically considered, there should be provided a mild laxative in a combination of nux vomica and physostigma, as setting in active operation the two essential factors of a cathartic influence. At all events, physostigma introduced into the aperient pill should meet a corresponding indication, as respects the glandular structure of the bowel, with nux vom. in its action upon the muscular coat. From my own limited clinical experience with the former remedy, I have failed thus far to be satisfied of this fact, but in the subject of chronic constipation with prevalently dry dejections, it would receive the sanction of the authorities to combine a fraction of a grain of physostigma with the ingredient of the aperient pill.

Finally, idiosyncrasy is the occasion of much concern in the systematic and habitual use of cathartic remedies;—it is doubtful if individual peculiarities assert themselves more arbitrarily in reference to neurotic remedies than in such employment of cathartics. If the patient is a female, and especially if she has been long pampered by habits of self-indulgence and luxurious living, the case must be very carefully studied upon its own merits and demerits, or the physician will quite surely go wrong. The selection of remedies having been made and their apportionment decided upon, it is well that the patient should understand that no two cases of constipation ever required exactly the same treatment, and that quite likely there must be repeated trial and modification of the measure proposed and report to the physician before an exact adaptation can be made in the present instance. Large experience does not always bring confidence; a large experience in the treatment of chronic constipation rather brings distrust, *i. e.*, to the physician; and it is right that the patient should, at the start, be imbued with a measure of this distrust and acquainted with the reasons for it, alike in justice to the doctor, the system and himself. Many patients will not meet the inevitable conditions—they soon get discouraged or are satisfied with partial results; but when the physician can secure such co-operation, it is assuredly alone his fault if the treatment is not at last reduced to successful terms.

There are, however, some general facts in the employment of special cathartic materials, of which the following must serve as illustrations; and the more of such the practitioner may have at command the less often will he commit a deplorable error:

1. The salines do not commonly agree with the aged—they find them too chilling; and a dose of Epsom salts, which may operate very kindly upon the young and middle-aged and vigorous, may bring serious disaster to the old man or old woman. A sudden depression of vital energy and the function of calorification thus procured, together with other favoring circumstances, have more than once precipitated the subject into a fatal pneumonia.

2. All cathartics are apt to be attended with colicy complications when given to a woman at the epoch of menopause; and especial combination at such time, as with comminatives, should be directed against this painful action. Some of the text-books or lectures used to report the case of a young doctor who was dismissed with contumely from a prominent family, upon which he had chiefly depended for the advance of his fortune, because, of offense given to the alimentary canal of a matron, through neglect of this precaution.

3. The common domestic cathartic, senna, should never be prescribed to the subject of cumulative constipation or of impacted fæces; if there be anything answerable to a fæcal plug formed in the course of the small intestine or near the valve, on either side, such a peristaltic cathartic as senna will infallibly occasion serious and even alarming colic before evacuation can be accomplished; and the same restriction applies to a similar use of an integral dose as calomel.[1]

4. And to make affirmative provision for the subject of the last restriction, in a case of impacted constipation, when it is to be presumed the bowels are more or less distended with hard, dry, knotty, scyabalous masses (and the more imperatively if there be suspicion of complicating typhlitis or perityphlitis), nothing works so safely and so well as Epsom salts, possibly energized with minute doses of tart. emetic, gr. $\frac{1}{16}$ to $\frac{1}{12}$. Or if it be desirable to apply a cautious peristaltic stimulant in this condition, or in whatever condition declares absence of organic contractility in the bowels, nothing else can be so direct in operation as gr. $\frac{1}{40}$ sulph. strychn., inserted once or twice in the twenty-four hours in the areolar tissue of the abdominal wall.

[1] NOTE—An infusion of senna may, however, be administered as enema when the torpor and distension are mainly located in the large bowel, both safely and effectually. The excitant influence of senna over organic muscular fibre of bladder, and uterus also, was perhaps more familiar to physicians of an older school than to those of the present day.

5. There is apparent perplexity in providing cathartic medication, whether on occasions of temporary or habitual constipation, for the subject of a prevalent uterine hæmorrhage—*i. e.*, menorrhagia or metrorrhagia. Of course, aloetics are absolutely contraindicated, and senna and cascara no less absolutely; unless, indeed, in the exceptional instance where such a remedy as ergot is required. But there is a cathartic, or laxative cathartic, which deservedly has the reputation of exerting somewhat of inhibitory influence upon hæmorrhage from the womb, viz.: cream of tartar. It would be hard to name another which, in its action upon the bowels, arouses so little of peristalsis; and it is not possible that cream of tartar, in any degree of action, should stimulate uterine muscles to contraction; while its tendency to reduce temperature, and especially to lower blood pressure, should work favorably for the arrest of hæmorrhage from whatever cause.

The last section of our subject contemplates, if not the cure of habitual constipation, at least an escape from its discomforts and injurious influence upon health, by the systematic use of water-enemata; but its discussion must be postponed for want of time. It may be said, however, in closing, that loose aud erroneous notions prevail to an extent among the profession even, respecting the value and the consequences of this measure of relief. The rectal syringe, like the uterine pessary, may do incalculable mischief; suitably, appropriately, strictly and intelligently controlled, it may be of incalculable benefit. In either instance, there must be selection of cases and considerate adaptation. In no other department of medical practice is the tyro in medicine more out of place, as well as the physician who gives but a passing thought to the condition for which he is called to prescribe.

MEDICAL PROGRESS.

Placenta Prævia.—At the first meeting of the German Gynecological Association Dr. Bayer, of Strassburg read a paper on this subject. Duncan's theory as regards hæmorrhages in placenta prævia was formulated to apply only to the hæmorrhages occurring with the pains and suffices for these alone. Since that time we have learned of the formation of a lower uterine segment. This is not simply the lowest portion of the uterus, but a zone, characterized by quite definite qualities, which does not take part in the contractions, and depends after labor in a condition of extreme relaxation. The hæmorrhages have been brought into connection with the development of this lower segment, and since the latter forms during pregnancy, this apparently explains also the hæmorrhages occurring during gestation. He then compared the various views respecting the origin of the lower uterine segment with the conditions existing in placenta prævia. According to the views of those who look upon the lower segment as a portion of the body of the uterus, the placenta prævia must be partly or wholly inserted into the segment. But this is a physiological impossibility, at least in cases terminating favorably, for owing to the absence of contraction or retraction of the placental site in the lower segment, every parturient with placenta prævia would be hopelessly doomed to death from hæmorrhage. The other view, according to which the lower segment forms from the supravaginal portion, explains the phenomena in a less forced manner. But then the questions arise, why does hæmorrhage not invariably occur during pregnancy and why can the placenta be felt occasionally immediately over the closed cervical canal, or one with opened parallel walls? These objections cannot be explained by saying that the conditions vary in different cases. He concludes from the observation of twenty cases that in placenta prævia similar conditions prevail as in premature labor, that is to say, that in that condition the defective development of the supravaginal portion is a typical phenomenon; that furthermore the internal os occasionally remains closed until the actual commencement of labor, and that in that case no lower segment is formed.

Dr. Bayer distinguishes:

A. Simple low insertion of the placenta, where the margin of the placenta reaches only into the neighborhood of the internal os. Here hæmorrhage occurs only during labor, when a portion of the placenta remains in the area of relaxation, *i. e.*, when the lower segment is not formed normally. Accordingly he found low insertion of the placenta with hæmorrhage during delivery only in premature labors in the eighth or ninth month.

B. True placenta prævia. To constitute this condition, it is necessary that some portion of the placenta at some time covers the internal os. There is only a difference in degree between placenta prævia centralis and lateralis; the former may pass into the latter in the course of pregnancy or not until labor, when the supravaginal portion develops accordingly; inversely, the symptoms of placenta prævia centralis may be present, although only a small lobe projects over the internal os, when the latter did not dilate materially before the examination. As the internal os opens, the placenta inserted upon it must become detached or it must tear; in either case hæmorrhage occurs. If this takes place during pregnancy, provided the latter continues after the first hæmorrhage, we must expect alterations in the placenta. In the cases observed by him, such alterations were constant when hæmorrhage had occurred previous to labor; they were always absent when the first hæmorrhage took place at the outset of true contractions.

He distinguishes:

1. Hæmorrhages during pregnancy; they characterize cases in which the os opens during pregnancy.

a. The placenta remains firmly on its seat, while the portion on the os internum tears; the laceration may extend to the membrana chorii; in this case labor will probably set in soon or the child die from loss of blood. If the internal os opens very gradually, more superficial lesions of the placenta may arise; according to the view of the author, a placenta marginata occasionally forms by the tearing apart of

the placenta, flattening and relatively excessive spreading of the maternal surface. Perhaps such lacerations or tearing apart of the cotyledons over the internal os explain also the cases of placenta succenturiata.

b. When the internal os opens, the smaller lobe of the placenta is loosened; it falls into the lower segment which develops only to a slight degree; it becomes exsanguinated, flattens, atrophies, and detaches itself from its chorionic insertion. This form of placenta, therefore, can be looked upon as a partial placenta marginata. Should the pregnancy continue long enough after the detachment of the smaller lobe, it is possible that a lower segment of normal extent will form subsequently; if the placenta at the same time is situated at the anterior wall, it will possibly be no longer palpable during labor as prævia, and in some cases not give rise to hæmorrhage even during the pains.

2. Hæmorrhages during true contractions. Here Duncan's explanation is valid. The uterus draws itself upwards at the placenta so long as the ovum remains intact. In this way, a larger and larger portion of the placenta appears free; the lobe thus detached looks thick, saturated with blood, bluish-red, and covered with clots. If it was the source of hæmorrhage before or during pregnancy, there are besides corresponding alterations in the placenta. In rarer cases, the internal os remains closed until the onset of labor. Then there is an absence of those changes in the placenta which require time for their development, but there is also an absence of every uterine hæmorrhage during pregnancy, and the course of the labor in such cases is usually more difficult, and more dangerous for mother and child.

a. The unfolding of the cervix during the pains progresses in a normal manner. In such cases the manipulations of the attendant are rendered more or less difficult, and the ordinary cervical lacerations—longitudinal tears through the lower portion of the neck—occur more readily. The first hæmorrhage is then usually of special severity, as Spiegelberg has formerly pointed out.

Of much graver import are the cases in which the still undeveloped supravaginal portion shows a tendency to form a stricture— placenta prævia with stricture. In such cases, the internal os remains comparatively narrow during the pains, while the inferior portions of the cervix dilate in form of an ampulla. The author has met with a similar case in which the parturient lost no blood, not only during pregnancy, but even for two days during labor, although placental tissue was situated all around over the internal os. Immediately after labor, the patient bled to death from a fistulous cervical laceration extending as far as the peritoneum. He proposed the following divisions:

1. Placenta prævia with corresponding development of the supravaginal portion and hæmorrhages during pregnancy and alterations in the placenta. He observed ten cases with hæmorrhages during pregnancy; among these were two cases of placenta marginata totalis, six of partial placenta marginata, two of placenta succenturiata. Eight children were born living, one at six months, one dead. All mothers recovered.

2. Placenta prævia with cervix remaining intact until the onset of true labor; no chronic alterations in the placenta, no uterine hæmorrhages during pregnancy. Aside from three cases of low insertion of the placenta and hæmorrhage with premature labor, he had observed seven cases of placenta prævia without hæmorrhage during pregnancy. In six of these, labor occurred at term. Two children were born living, five dead; one mother died of hæmorrhage immediately after labor, one had a severe attack of parametritis, one required the suturing of the cervix. —*American Journal of Obstetrics*, August, 1886.

SULPHATE OF IRON IN DIARRHŒA.—MR. CHARLES ROTHWELL says in the *British Medical Journal* for July 17, there is a memorandum from Dr. Braithwait, of Leeds, on the treatment of diarrhœa in children by the sulphate of iron. Although I have no experience of its efficacy in children, I can endorse the same in the choleraic diarrhœa of adults. It was during the last real invasion of our country by cholera in 1850, when East London and Gateshead suffered severely, that the valuable suggestion of treatment by the iron sulphate was adopted with success in the larger number of cases of choleraic diarrhœa, if not real cholera, treated here, such cases being diagnosed by blue, cold, wet skin, writhing cramps, and vox choleraica, which, once heard, is never forgotten. It is to be noted that Dr. Braithwaite has omitted mention of what used to be considered the "best bower anchor" in the treatment of all diarrhœas, namely, laudanum, which, if it held, only made the unfortunate vessel swing round upon rocks as dangerous as the storm itself. It is generally known that this ferric salt is, or ought to be, widely used for the disinfection or correction of decomposing fomites of disease in midden heaps, sewers, and the like. Why not use it in the aboriginal and typical sewer *in corpore vili*, in the flushing of which nature uses the most valuable of storm-waters, namely, blood-serum, *plus* albumen, to the destruction of the house that owns it? I would suggest the use of this salt by injection, in cases where persistent vomiting stops the way.

TAKING THE TEMPERATURE IN CHILDREN.—A very ingenious and simple method has been proposed by FILATOFF, in the *Archiv für Kinderheilkunde*, vol. vii, part 3, for expediting the troublesome process of obtaining the temperature in children.

He recommends that by the use of a previously warmed thermometer the fall, and not, as is usual, the rise of the mercury be observed. In from one to two minutes the column is found to stop at a point which very closely approximates to the actual temperature of the patient. It is found that the higher the fever, the smaller is the error. Thus, at temperatures of from 103.1° to 104° F., the error does not exceed 0.2° F., while for lower temperatures it may reach 0.5° F. It is, of course, evident that a certain amount of care and skill is requisite in order that the precursory warming of the thermometer be neither insufficient nor excessive.—*Med. News*, Aug. 28, '85.

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THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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DIABETIC COMA.

There has been a great deal of unfruitful speculation in regard to the nature and causes of the so-called diabetic coma. It has been applied to a form of coma which occurs late in the disease, and which frequently terminates the affection, and is also used to indicate a train of nervous symptoms of which coma is the terminal one. "To this train of symptoms the word acetonæmia is also applied, and should alone be used," says Tyson, "while the term diabetic coma should be restricted to the terminal symptom." One of the most thorough reviews of this subject that has come out for some time is the Bradshaw Lecture, delivered on August 18, before the Royal College of Physicians of London, by DR. JULIUS DRESCHFELD. The lecture may be found in full in the *British Medical Journal*, of August 21, 1886. "By diabetic coma," he says, "we understand a peculiar train of symptoms coming on, more or less suddenly, in the course of diabetes, characterized chiefly by coma, and often ending fatally in a very short time." We cannot, however, hold diabetic coma responsible for every sudden death occurring in diabetes, even though coma may form a principal symptom; there may be a well-known cause for the death, and distinctive lesions may be found after death. The death may be due to cerebral hæmorrhage, or to dyspnœic coma of acute pneumonia; or, as when a true nephritis exists with the diabetes, death may be due to uræmia.

In a paper read in 1881, before the Manchester Medical Society, Dr. Dreschfeld classified the cases of diabetic coma into three classes, according to the symptoms: one form, characterized chiefly by drowsiness, soon passing into coma; a second, resembling alcoholic intoxication, a marked symptom of which is a staggering gait, incoherent speech, and an excited condition of the nervous system, followed by drowsiness and coma; and a third, including the greater number of cases, in which dyspnœa is usually a most marked symptom, followed by coma, both the breath and urine having a strong odor of acetone, and the urine containing a peculiar body giving a deep claret color with perchloride of iron. Some time after this paper was read Frerichs adopted an almost identical classification as regards symptomatology, and more clearly distinguished the pathological differences between the first group and the other two. To the first group Dr. Dreschfeld would give the name "diabetic collapse," and as regards the symptomatology we find a condition somewhat as follows: "The patient, without any premonitory symptoms, begins to suffer from drowsiness, hebitude, excessive weakness in the limbs; the extremities become cold; hands, feet, and face become livid; the pulse quick, small, threadlike, soon reaching 120 and 130; the respirations are only slightly quickened, shallow, without there being much dyspnœa; the temperature gradually falls, the skin in some cases becomes covered with perspiration, and death ensues from collapse in most cases within ten to twenty hours. During the first few hours, the patient is still able to pass urine voluntarily. With the progress of the coma the urine is retained in the bladder; but, when withdrawn, is found to contain a considerable amount of sugar (5 to 8 per cent.), but no acetone or aceto-acetic acid. In two cases which I had an opportunity of seeing, it contained a small amount of albumen. The nervous system presents few other symptoms besides the coma; the pupils react, though somewhat sluggish; there may be some slight headache, but active delirium and convulsions are mostly absent. The post-mortem examination shows no marked naked-eye changes." The data are insufficient to enable us to show how many cases of diabetic coma belong to this group; but as regards the etiological factors we may draw the following conclusions: "1. Diabetic collapse occurs chiefly, though not exclusively, in older people, after the age of 40. 2. It attacks persons who have suffered from diabetic symptoms for some time, and who are, as a rule, still stout and well-nourished at the time of attack. In short, the cases belong more to that form of diabetes recently described by Hoffman as constitutional diabetes, or diabetes of stout people, where the course of the disease is slow and protracted, and where gout or nephritis form frequent associations, and where the

appearances of carbuncles and other necrotic changes are not uncommon." Prout pointed out that the exciting cause is some extra physical exertion in the majority of cases; and in a smaller number of cases an error of diet, or immoderate drinking. As to the cause of diabetic collapse, Frerichs believed it to be due to heart-failure from fatty degeneration; a view which seems to have the strongest support. Schmitz showed that of 109 diabetic patients eighty showed considerable heart-weakness. "If death be due to sudden exhaustion brought about by a more than ordinary demand being made on the constitution weakened and altered by the diabetes, we should expect a somewhat similar mode of death in other constitutional diseases where the heart's muscle is altered and the blood has undergone changes, but where there is no diabetes; and that this is actually the case, is easy of demonstration."

The alcoholic form of diabetic coma is rare, and Dr. Dreschfeld thinks that it is most likely identical with the third class. In its symptoms it resembles acute alcoholic intoxication, and Kulz has recorded a case in which the urine contained large quantities of alcohol. Frerichs has described some cases similar in symptomatology to alcoholic intoxication, in which the expired air smelled strongly of acetone; but no mention was made of the presence of alcohol in the urine. If this class is to be regarded as a distinct pathological type it will be necessary to have more definite data as to the presence of alcohol in the urine.

"Coma from acetonæmia," the term which Dr. Dreschfeld applies to the third form, is the most common of the three classes. He has observed sixteen fatal cases, and studied the pathological changes in ten cases. In making a detailed analysis of the symptoms we find those referable to the nervous system, the vascular system, the respiratory apparatus, the digestive system, the urinary organs, the temperature, and the blood. In regard to the first there is a period of excitement, during which there are headache, vertigo, a state of excitement not unlike that of alcoholic excitement, incoherent speech, and delirium bordering on mania. Convulsions are rare, though there may be jactitation. Sooner or later these symptoms are followed by signs of depression, such as hebetude, thick speech, drowsiness and coma. The pupils may be dilated or contracted, and react almost to the last. Abdominal pain is an early symptom, and may simulate peritonitis. The vaso-motor system is much affected; the face is often flushed at first, becoming pale afterwards, and the extremities become cyanotic. The skin may be dry at first, but later may be covered with clammy perspiration. The pulse is one of low tension, becoming quick, small, threadlike, and irregular; while the heart's action is feeble. The symptoms referable to the respiratory apparatus are marked dyspnœa, which may be one of the first symptoms, increasing to the last, inspiratory at first, and then both inspiratory and expiratory. It has been accurately described by Kussmaul, the thorax expanding well in all directions, the air, on auscultation, being heard to enter all the parts of the lungs; but in spite of this there is great breathlessness. The respirations may be increased or diminished in number. There is often a pain in the chest, and a limited pleuro-pneumonia may be sometimes found. The exhaled air has a chloroform-like smell, which is due to acetone. The symptoms referable to the digestive tract are, a dry red tongue, loss of appetite, nausea, vomiting of copious masses, and tense epigastric pain. There may be an intermittent constipation or profuse diarrhœa from the first. The urine is diminished, as well as the amount of sugar, which may entirely disappear. The urine is often very acid, but not always so, and the amount of ammonia is often increased. The urine has the peculiar odor of the breath, and contains acetone; giving the characteristic claret-red color with perchloride of iron, which is undoubtedly due to aceto-acetic acid. It may contain a large quantity of fat, and often contains albumin, from a trace to a considerable quantity. The temperature rises during the first stage, but it falls with the onset of coma, and may go down to 95°, 94°, or as low as 90°, just before death.

It may be said that diabetic coma is fatal in about 90 per cent. of the cases. Some of the cases run their course without premonitory symptoms, within from twelve to twenty-four hours, though in about 60 per cent. of the cases the duration of the attack is two or three days, and has such premonitory symptoms as lassitude, abdominal pain or dyspnœa; while in other cases the coma is preceded by several weeks or months by a condition which is known as chronic acetonæmia. After the graver symptoms of coma have appeared it is exceptional for the patient to show any improvement. In rare cases the symptoms may improve for a time, and then reappear with fatal results, or a gradual and steady improvement may take place.

Several points in the etiology of diabetic coma seem to be clearly established; it chiefly affects younger persons. Pavy found that 55.65 per cent. of the cases of diabetes occurred between the ages of 40 and 60; and from an analysis of 80 cases of diabetic coma Dreschfeld finds that 70 per cent. oc-

curred between the ages of 20 and 40, and only 24 per cent. between 40 and 60. It may occur at a much earlier age, even under 5 years. The coma may come on very early in the course of diabetes. In the younger persons it usually appears from six to twelve months after the first symptoms of diabetes; while in older persons it comes on later. It seems to occur almost exclusively in the severer forms of the disease. There are reasons for supposing that hereditary disposition may play some part in the etiology of the affection. Excessive physical exercise is the exciting cause in about 50 per cent. of the cases; mental shock about 10 per cent. Sudden change from a mixed to an exclusively nitrogenous diet is an exciting cause. Coma sometimes follows a surgical operation on a diabetic; though we cannot say whether this is due to the shock to the nervous system from the operation, or to the anæsthetic—more probably the former. It may also follow intercurrent febrile affections occurring in diabetic patients.

In any discussion of the pathology of diabetic coma we must give greater prominence to the abnormal bodies circulating in the blood and appearing in the secretions; fat in the blood, and acetone, aceto-acetic acid, and β-oxy-butyric acid. As regards the presence of fat in the blood, it will be remembered that Sanders and Hamilton put forth the ingenious but untenable theory that the symptoms of diabetic coma might be due to fat-embolism. Acetone and aceto-acetic acid are found in the majority of cases of diabetic coma. Dreschfeld has not failed to find them in any case examined since Legal's test was made known; this consists in the addition to the distilled portion of the urine of a small quantity of caustic soda solution, then a few drops of a solution of sodium nitro-prusside, and then a few drops of acetic acid, when a beautiful red color appears if acetone be present. The tests for aceto-acetic acid are as follows: 1. The urine is treated with concentrated solution of perchloride of iron, and filtered from the phosphates, which are precipitated. The claret-red color disappears on heating. 2. The urine, after the addition of a small quantity of dilute sulphuric acid, is shaken up with ether, and in the ether extract, which takes up the aceto-acetic acid, perchloride of iron produces again the characteristic color which gradually fades on standing. 3. The urine, on distillation, gives characteristic reaction for aceto-acetic acid is easily decomposed.

Have these bodies any toxic effect when administered to man? It seems that they have not, though Dreschfeld and others have tested the matter thoroughly. If present in the blood of animals in large quantity, and not quickly eliminated, they will produce effects similar to those of diabetic coma. Acetone and aceto-acetic acid may occur in the urine in many acute and chronic and acute diseases; and though they often cause only slight and temporary symptoms, they may give rise to the dangerous symptoms of diabetic coma (or the coma seen in diabetes). There seems to be little doubt that the functions of the kidneys and liver are seriously impaired in diabetes, even though the material changes may not be prominent; and there is reason to believe that the impairment of the hepatic functions is the more serious. "Whilst believing that acetone has a large share in the production of the symptoms, I hold that it is only one of a series of bodies of which aceto-acetic acid is another, β-oxy-butyric acid a third, and of which there are probably more, which, if not quickly eliminated, act powerfully on the nervous system, and thus produce diabetic coma. Whether some of these acids act by withdrawing the alkalies from the blood; in fact, whether they produce an acid intoxication, as Stadelmann and Minkowsky believe a statement which is supported by the experimental research of Walter on the action of acids on certain animals, remains yet to be seen." Dr. Dreschfeld compares the third form of diabetic coma to uræmia, though the toxic agents and symptoms are different. It is possible that the studies of Brieger, Bouchard and Gautier on the fermentative changes going on in the body will yet throw some light on these obscure subjects.

EMOTIONAL ICTERUS AND LICHEN.

So many cases of emotional icterus are on record that it is scarcely worth the while to enter into a statistical discussion to show the existence of such an affection. Dr. Negel, of Jassy, Roumania, reports, in *Progrès Médical*, of August 21, a "case of emotional icterus accompanied by a general eruption of lichen," which is sufficiently rare to give in detail. The patient was 23 years old, of robust constitution, with a tendency to obesity, and for some years subject to acne of the face and back, and there was slight submaxillary engorgement. There was no hereditary taint in the patient.

In February, 1885, there was an herpetic eruption on his prepuce, which he himself treated with cauterizations of nitrate of silver, as a result of which there was an enormous ulcer and balano-posthitis. He then consulted a physician, who ordered emollient dressings, but the ulcer grew larger. To make a

long story short, the physician finally told him that his penis would gangrene; but the patient showed so much alarm that Dr Negel was consulted. When he arrived some time later, he found that the patient's urine was brown, and left a deposit in the *pot de chambre;* the fæcal matters were colorless, and there was slight constipation. This state lasted for two days, when the patient noticed that his saliva was bitter, and there was slight fever. There was now intense icterus, accompanied by an eruption of lichen, situated principally on the thorax (back and sides), abdomen and face, the limbs and scrotum. It was of the simple variety, and presented a few vesicles here and there. The urine contained a great deal of bile pigment. An emeto-cathartic was given, and then saline purgatives, lemonade, bicarbonate of soda, and antiseptic dressings were applied to the ulcerated and swollen prepuce.

After ten days of treatment the ulceration and balanitis were almost cured, but the lichen persisted. The icterus had greatly diminished. After about three weeks the patient was practically well, but there was still some jaundice and lichen.

ARTIFICIAL QUININE.—*The Lancet*, of August 28, intimates that Mr. Creswell Hewett has made a discovery by which quinine may be made by synthesis, from an article which may be got in abundance in any part of the world. It is thought that Mr. Hewett will put himself in communication with the British Government, which spends $300,000 annually in India alone in the cultivation of the cinchona tree.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Tenth Annual Session, held at Indian Harbor Hotel, Greenwich, Conn., August 25, 26, and 27.

WEDNESDAY, AUGUST 25. FIRST DAY.

MORNING SESSION.

THE PRESIDENT, DR. EDWARD WIGGLESWORTH, of Boston, delivered the

OPENING ADDRESS.

Just ten years ago, at Philadelphia, I had the honor of calling to order the first public meeting for the organization of this Association. Our specialty for the first time, received national acknowledgement. Our guerilla warfare was over and our subsequent record has been one of unbroken successive victories over bigotry, error and ignorance. But the day of Paladins is past and our ranks will admit more recruits. There are still remaining opportunities for more extended instruction of students in medical schools, while the lack of hospital facilities for the proper clinical treatment of diseases of the skin, is a standing shame and disgrace to our municipal authorities, our hospital boards, and to the medical profession itself. "As now arranged nearly everywhere amongst us, these institutions refuse to a large class of sick persons, the benefit of hospital residence either wholly, or offer them, if received, not we may fairly say, the best medical skill it is in their power to procure." Some progress has, however, been made. New York has now a special hospital for skin diseases, besides two wards in the Charity Hospital, and Philadelphia has special clinics with beds at three different institutions.

About twice as many cases of diseases of the skin are now annually treated by specialists as there were ten years ago. The contributions to American Dermatological literature during the past decade, include the best treatises, hand-books and atlases, the only periodicals and some of the best monographs of the time, in the English Language.

While much has been accomplished, much still remains to be done. The idea of specialism, already rooted, is to be nurtured and trained in the minds of the profession and of the public, and the practical development socially of our specialty itself is to be elaborated in many minor details. The pioneer must no longer prove a martyr. A knowledge of the weaker side of human nature, useful for selfish financial ends, must no longer be allowed to usurp the province of exact scientific acquaintance with disease, inuring to the benefit of our race. The "elaborate division of labor" is as "useful and successful in a learned profession as it is in the mechanic arts," for it is merely a relative question of height of standard. Specialism substitutes quality for quantity, which substitution is the essential characteristic of the civilized man as distinguished from the savage, while the rapidity of such substitution, gauges the progress of civilization itself. Medicine is merely that complex whole which results from the combination of all its component parts, and their individual advancement is the criterion of its own progress.

Believing in the ultimate achievement of all possibilities and in the progress of Truth, I have no doubt as to the future of specialism if we are honest and earnest. Not infinite omniscience, but infinite morality is the duty of the specialist, and this conscientiously carried out, will blunt the sharpest dart of the hostile general practitioner. While visions of what yet remains to be accomplished might well lead us almost to despair, a mere glance at the generally prevailing ignorance on the part of both physicians and their patients, shows conclusively that we and our work are imperatively demanded.

DR. EDWARD BENNET BRONSON, of New York, read a paper which was entitled

ERYTHANTHEMA SYPHILITICUM.

Attention was called to certain cutaneous eruptions of an erythematoid character occurring in connection with syphilis, and the attempt was made to de-

termine their etiology. A case was reported of a syphilitic patient who developed a peculiar eruption upon the head, hands and feet. Although the eruption presented no pronounced syphilitic characteristics, it was regarded as due to syphilis for the reasons that it was shortly followed by an outbreak of well-marked specific efflorescences on various parts of the body, and moreover, there was a transformation of the eruption upon the head, into infiltrated lesions presenting a distinct syphilitic character. The eruption first appeared on the face in the form of an erythema which was covered with vesiculo-papular efflorescences. Later, a similar outbreak occurred on the nape of the neck. The vesiculo papules broke, leaving excoriated surfaces of a diphtheritic character from which there exuded an exceedingly abundant, foul-smelling discharge. Soon after vegetating growths made their appearance, which upon the bearded parts of the face were quite exuberant and resembled condylomata acuminata. Those upon the neck, formed more discrete, tuberous prominences and had the appearance of condylomata lata; while upon the upper parts of the face, the elevations were nummular and had comparatively smooth, though somewhat lobulated surfaces. After a week or two, the erythematous areas, which formed the bases of the vegetating lesions, became the seats of a gradually increasing, copper-colored infiltration. The palms and corresponding surfaces of the fingers, were covered with a deep-red sharply circumscribed erythema, which was followed by lamellar desquamation. A similar eruption occurred in patches upon the soles. The finger nails were all more or less affected with onychia sicca. Upon the body and limbs, several crops of well-marked syphilitic papules succeeded each other, and finally all the manifestations yielded rapidly to mercurial treatment. The preliminary eruption in this case was characterized as an erythanthema dependent in some way upon the specific disease. Other instances of erythematoid eruptions occurring incidentally to syphilis, were referred to as being more or less analogous to the above cited case.

He attempted to define more precisely the etiological relations of these various erythematoid eruptions occurring in connection with and probably as a consequence of syphilis. It was maintained that probably they were not equivalent in their mode of origin to the syphilodermata, but rather to certain angioneurotic or neuritic affections, which they closely resembled. The true syphilodermata are always characterized by a specific infiltration and are probably the result of a determination of the *materies morbi* to the surface. They are therefore pathognomonic of syphilis. The erythanthema syphiliticum, on the other hand, is only an indirect effect of the syphilis, the result of reflex irritation of the skin from the action of the skin from the action of the disease upon nervous centres, and therefore not pathognomonic of syphilis. The fact that this might be followed by a true syphilitic infiltration *in situ*, was regarded as analogous to the effect sometimes observed of traumatic irritation in syphilitic subjects, where local injuries became the seat of specific infiltrations.

Dr. I. E. Atkinson, of Baltimore, held that with reference to pathognomonic syphilitic eruptions, a great deal of caution should be exercised. Lesions similar to those described by Dr. Bronson are not of excessive rarity in cachectic subjects and in cases of malignant syphilis, but in his experience, they have always been manifestations of late or tertiary syphilis.

Dr. J. C. White, of Boston, said that the diseases which had been described are so rare in syphilis, so little is known of the nature of erythema nodosum and its causes, and we know so little of the nature and causes of so-called erythema herpetiformis, that it seems to him that we must have some more exact data before we can regard these affections as a necessary sequel of syphilis, and as anything more than accidental occurrences.

Dr. G. H. Tilden, of Boston, thought that in the present state of our knowledge it would be more philosophical to consider the appearances described as accidental rather than as dependent upon the specific disease.

Dr. I. E. Atkinson, of Baltimore, read a paper on

RUBELLA OR RÖTHELN.

The paper was based upon a review of the literature of the subject and a study of the reported cases, and gave a complete account of the disease, as regards its symptoms, duration and diagnosis. On account of the confusion existing as to the nomenclature of this disease, the speaker suggested that rubella be accepted as its proper title, and that it might be known in popular language as epidemic roseola.

Dr. Wigglesworth said that he had suggested several years ago that measles be called morbilli, and rubeola or rötheln be used to signify what is termed German measles, and roseola be reserved as the title for the rose-colored spots seen in syphilis and other conditions. There seem to be no necessity for the introduction of a new term.

Dr. G. H. Fox, of New York, reported a case of

LYMPHADENOMA (MYCOSIS FONGOIDE) AND AUTOPSY.

Mrs. G., aged 33 years; the mother of six children. During pregnancy in the summer of 1881, she suffered with general pruritus, which passed away after confinement in October. A year later, small flattened circular tumors appeared in the axillæ and on the breasts. These became moist and were accompanied with a burning sensation. The eruption disappeared from these situations and reappeared upon the back and other portions of the body. After the birth of her last child in February, 1885, a tumor developed at the inferior angle of the left scapula. The lesions on the other parts of the body disappeared with the exception of two spots on the finger, and one on the left cheek. The tumor on the left scapula gradually softened and disappeared.

The patient was admitted to the hospital in October, 1885, and was fairly well nourished. There were at this time numerous tumors over the body, some of which were superficially ulcerated. The worst tumors were on the breast. Hypodermic injections of Fowler's solution were used without benefit. Chaulamooga oil was given in increasing doses

until forty drops four times daily were taken without causing any improvement.

The patient died in April, 1886. The microscopical examination gave usual appearances of these growths. The internal organs were found to be normal.

DR. G. H. TILDEN remarked that Rindfleisch states that he has found a distinct micrococcus inside of the blood vessels in this affection. Recently this has been confirmed by another observer. It looks as though what we ordinarily know as malignant lymphoma, affecting the lymphatic glands, with deposits in other parts of the body (Hodgkin's disease), is one of the infectious diseases. He thought it probable that mycosis fongoide is a variety of the same disease, and that it is nothing but an acute infectious disease.

DR. J. NEVENS HYDE, of Chicago, read a

NOTE RELATIVE TO THE BULLOUS ERUPTION OCCURRING AFTER THE INJESTION OF IODINE COMPOUNDS

(Read by the secretary).

Several illustrative cases were reported. There are two distinct types, the bullous and the quasi-bullous eruption produced by the injestion of iodide of potassium. In the first form the patients are often well advanced in years, often cachectic and frequently affected with syphilis or other grave disease. In what may be regarded as a second sub-form of this exantheme, there are di- or polymorphic symptoms. Here bullæ are commingled with papules, tubercles and other patches of disease. In conclusion the author presented the following interrogative propositions:

1. Are there not three sub-forms of the bullous exantheme developed in certain individuals after the injestion of iodide of potassium?

2. Is not the first and most common of these to be generally recognized in persons of advanced age and cachectic condition, the rash being then present in the form of typical bullæ?

3. Is there a second and still rarer sub-form, in which the eruption is displayed in di- or polymorphic manifestations, typical, perfect bullæ being then mingled with papules, tubercles, scarlatiniform maculations or with other and different lesions?

4. Is there not a third and rarer sub-form, the quasi-bullous rash to be most frequently recognized on the face and dorsal aspect of the hands and forearms of infants and children, where the lesions are semi-solid, slightly umbilicated and filled with inspissated yellowish matter, and which may shrivel and dessicate on the suspension of the drug inducing the condition?

5. Is this last described lesion one to be recognized solely as the result of the injestion of iodide of potassium, never under other circumstances, and one as peculiar to the special condition it represents as is the gumma to syphilis?

DR. R. W. TAYLOR, of New York, reported a case of a peculiar form of iodic poisoning. It was in a case of gummatous infiltration of the pharynx where iodoform had been resorted to as a local application. In the course of two hours it produced a diffuse eruption on the face, neck and hands. On the hands, it assumed an eczematous character.

DR. J. E. GRAHAM, of Toronto, described the case of a young man 22 years of age, had contracted syphilis two years previously. Noticing some pimples on his face he secured a preparation of iodide of potassium containing 5 grains to the dose. Two days later after he had a bullous eruption, principally upon the face and neck. Thinking this was a tertiary manifestation the dose was increased to 15 grains. Two days later, the eruption on the face was much increased, and recognizing the cause of the condition, the remedy was stopped and the eruption rapidly disappeared.

DR. ATKINSON referred to a case of what was supposed to be malignant syphilis, the patient had had syphilis, and had been put on the use of iodide of potassium. The lesions continued to increase, and after the iodide had been taken for six months, Dr. A. saw the case. There was an enormous formation of scar-tissue over the face and neck. In addition there were bullæ and elevated infiltrated plaques. The drug was stopped and in six weeks the ulcerations had healed, the cicatricial tissue of course remaining.

EVENING SESSION.

DR. R. W. TAYLOR, of New York, read a paper on

PRECOCIOUS GUMMATA.

Of the precocious gummatous syphilide or gummata there are three quite clearly marked forms: *First*, the early, general and copious form; *secondly*, the more localized form, which may invade several regions and is usually symmetrically distributed; and *thirdly*, a form in which more or less severe neuralgias precede and accompany the eruption, which in many particulars resembles simple erythema nodosum, but which in its etiology is not in any way related to this simple form of eruption, but is a direct outcome of the syphilitic diathesis. These precocious gummata partake in general of the features of those of later forms, but they differ in a more acute invasion, in a much more rapid course, and are usually not as destructive in their action as the classical eruption. In the treatment of these precocious gummata syphilides, a combination of mercury and iodide of potassium is much more efficacious than is mercury alone.

DR. F. B. GREENOUGH, of Boston, read some

CLINICAL NOTES ON SCABIES.

He said that since the establishment of the special department for skin diseases at the Boston Dispensary, thirteen years ago, he had had the opportunity of studying a large number of cases of scabies, and had been much interested by the rapid increase in the number of cases seen in the past few years. The percentage of cases of scabies to cases of other cutaneous diseases had varied from $\frac{3}{10}$ per cent. in 1876 to over 13 per cent. during the past year. This great increase in frequency seemed to be one of the most interesting and important points brought out by his notes. Four-fifths of the cases seen were between 5 and 30 years of age, and only four cases were over 60 years of age.

The facts which were especially noticed were the

few cases in which typical burrows could be found; the great constancy of the manifestations on the penis in male subjects; the difference of the symptoms produced by scratching according to the situation of the lesion, and the success of treatment. He has used almost entirely an ointment consisting of two parts of sulphur, one of carbonate of potash and three of petroleum ointment, simply cautioning the patients against applying it to inflamed and pustular localities.

Dr. A. R. Robinson, of New York, said that opening a vesicle, examining its contents under the microscope, and finding the young acari or the fæces, would settle the diagnosis in doubtful cases.

Dr. E. B. Bronson, of New York, agreed with the author of the paper as to the frequent absence of the cuniculi. In many cases he depended largely upon the elongated character of the efflorescence in making the diagnosis. In the treatment of scabies he had used a 50 per cent. preparation of naphthol with success.

Dr. S. Sherwell, of Brooklyn, had also seen an increased number of cases of scabies, a large proportion of the cases being among Scandinavians. As a prophylactic, he directed the patient to sprinkle on the sheet a teaspoonful of the dry sulphur. This acts as a disinfectant and is unpleasant to the acarus.

Dr. H. W. Stelwagon, of Philadelphia, read some

CLINICAL OBSERVATIONS REGARDING THE VALUE OF RESORCIN, ICTHYOL AND LANOLIN IN CUTANEOUS DISEASES.

In regard to lanolin, he said that in some cases as an ointment base this is superior to the ordinary fats in use. Where a simple protective action is desired, it is inferior to vaselin, cold cream or lard. In chronic cases, where there is infiltration and a degree of penetration is the object, lanolin is especially valuable. The writer stated that according to Liebreich, a lanolium purissimum was now manufactured, in which the cholestrin ethers were absent. The main disadvantage of lanolin as now manufactured from sheep's wool is its strong sheepy odor. In a few acute and subacute cases of eozem, lanolin for some reason proved irritating. As a rule, however, it is bland and unirritating.

Tuesday, August 25—Second Day.

Morning Session.

Dr. G. H. Tilden, of Boston, read a paper entitled

TROPHONEUROSIS OF THE SKIN CAUSED BY INJURY OF THE MEDIAN NERVE.

A carpenter, 55 years of age, was wounded in the wrist by a circular saw, four months before coming under observation. The wound was parallel with the axis of the limb. Three or four days after the infliction of the injury there was loss of the tractile sense and a feeling of numbness in the last two phalanges of the fore and middle fingers. This had continued and steadily increased. Three weeks after the accident, a bulla appeared upon the terminal phalanx of the middle finger. Similar lesions have developed from time to time upon the last two phalanges of the fore and middle fingers. The bullæ appear every two or three weeks and are unaccompanied by any subjective sensation. The skin over the affected phalanges is of a white color and of glossy texture. The growth of the nails is unaffected. There was entire loss of sensation in the skin covering the affected phalanges. The right hand is capable of exerting only one-half the power of the left. The first and second interossei muscles exhibited the reactions of degeneration.

Six weeks' treatment with the Faradic current caused decided improvement in all the symptoms. During this period only one bulla formed. He then stopped treatment and returned to work. Three weeks later all the former symptoms suddenly returned. It was proposed to the patient that an incision be made over the seat of injury with the view of determining the exact condition and if possible remedying it. The patient has not since been seen. After briefly considering the pathology of such lesions, the speaker said that the treatment of these cases consists in the use of electricity and the application of blisters over the seat of injury. A last resource is to cut down upon the affected nerve and endeavor to relieve any constriction or pressure which may be found. If no such condition is detected, resection of a portion of the nerve might be advisable, since complete section is not apt to be followed by spontaneous trophic changes and since it has been found that resection of a portion of the affected nerve is sometimes followed by the arrest of the trophic changes.

Dr. James C. White, of Boston, read a paper entitled

NATIVE PLANTS INJURIOUS TO THE SKIN.

He enumerated over fifty species which have irritating properties, when brought in contact with the skin.

Dr. F. B. Greenough, of Boston, read

A FEW ADDITIONAL NOTES ON PSORIASIS.

The author, owing to the fact that a statement he had made at the last meeting in reference to the general health of the patients, had been doubted, had attempted to obtain further testimony upon this point. He found that, as a rule, patients with psoriasis were above par in general health and strength. He had records of twenty-nine cases of 1,220 cases of skin diseases, giving a ratio of cases of psoriasis of 2⅓ per cent. The reader thought that the interesting deductions to be drawn from his cases were the facts that while nine cases showed symptoms of psoriasis under 10 years of age, one was first attacked at the age of 57 years; that out of twelve cases in which evidence could be obtained, four gave a decided history of the existence of disease in some member of the family, and that these cases showed such a high standard of general health. He considered this latter fact as a strong argument against the possible connection between psoriasis and syphilis.

Dr. A. R. Robinson, of New York, described a case of

CHONDROMA OF THE UPPER LIP.

The tumor occurred in a man 36 years of age and had been growing two years. It was one inch in length by three-fourths of an inch in diameter. It was egg-shaped, the broad end having its seat in the submucous tissue among the mucous glands. The mucous and cutaneous structures were freely movable over the tumor, which was sharply limited, somewhat encapsuled, and nourished by a small artery entering at the base. Microscopical examination showed the tumor to consist of embryonic, gland, and connective tissue. There were several islands of cartilage, the largest being in the central part of the tumor. All varieties of normal cartilage were present, viz.: hyaline, fibrous and reticular, and also the variety met with in the heads of cephalopods, namely, cartilage with ramifying or branched cells. The cells showed great diversity of form and size. The body of the branched cells presented a great variety of form. Some were surrounded with a capsule, but in the majority of cases this was absent or only faintly indicated. The affection was considered to be very rare.

DR. P. A. MORROW, of New York, read a paper on

KERATOSIS FOLLICULARIS, ASSOCIATED WITH FISSURING OF THE TONGUE AND LEUKOPLAKIA BUCCALIS.

The patient, a sailor aged 21 years, came under observation in December, 1885. Five years previously, soon after beginning his seafaring life, he noticed a number of blackish points upon the back of the hands, some of which he squeezed out. Soon afterwards these appeared upon other parts of the body. They improved when he was on land, but were aggravated when he was at sea. The entire surface of the body, with the exception of the face, palms and soles was found to be seat of the follicular disorder. The ducts of the sebaceous glands were occupied by comedo-like bodies projecting sometimes one-fourth to one-half an inch above the surface. From many of the follicles small white hairs protruded. The comedos when pressed out were hard and dry. The hard portion of the comedo was continuous with an adhesive substance dipping deeply into the follicle. There was no evidence of irritative or suppurative action.

The tongue was large and rough to the touch; the surface was deeply fissured, the fissures extending to the submucous tissue. The buccal mucous membrane presented a bluish-white appearance, thickened and raised in places, forming distinct plaques which were superficially fissured. The absence of irritation or marked sensitiveness of the fissured organ was quite noticeable. Examination seemed to exclude the possibility of a syphilitic origin. The speaker referred to other cases which had been reported. He objected to the term ichthyosis, since that suggests a disease of a different nature. He selected the term keratosis follicularis as more correctly expressing the pathological condition present, as well as indicating the anatomical seat of the disease. Drawings representing the microscopical appearances of the lesions were presented.

EVENING SESSION.

DR. J. E. GRAHAM, of Toronto, Canada, read

A CLINICAL STUDY OF SCLERODERMA.

The histories of two cases of this rare disease were related. The first patient, Mrs. R., 47 years of age, had previously suffered from rheumatism. The hardening of the skin began in March, 1882, and was first noticed over the back of the neck. It gradually spread so that in about ten weeks the integument over the greater part of the body was affected. The movements of the limbs as well as those of respiration were impeded. The internal treatment adopted was liquor ferri iodidi and liquor arsenitis. A Faradaic bath over the surface of the skin was used. In six weeks the skin began to grow softer, and in ten months the patient was quite well. There has been no return of the difficulty.

The second patient, Mr. H., aged 37, came under observation in May, 1886. There was a history of hereditary rheumatism. The disease had commenced some months previously. The first symptoms were stiffness of the limbs with œdema of the lower extremities. Then hardening of the skin over the hips was noticed, this gradually spread and was accompanied with pigmentation. The treatment consisted in the administration of potassium iodide at first, and latterly of salicylate of sodium. There has been some improvement under this treatment.

In his remarks in connection with the disease, the speaker referred to the following points: 1, that the disease is found principally in temperate climates and occurs in seasons when there are sudden changes in the weather; 2, that it is more closely related to rheumatism than has been supposed; 3, that although morphœa has in all probability a similar pathological origin to scleroderma, yet the clinical distinctions are so marked, that at present it is expedient to treat it under a different name.

DR. LE GRAND M. DENSLOW, of St. Paul, Minn., read a paper on

CARCINOMA CUTIS.

The patient, aged 49 years, had been an invalid for several years. He had had a severe pleurisy of the right side and presented the physical signs of absence of the right lung. The skin of the whole right chest was covered with a nodular new growth, which presented no ulceration. The older portions of the growth were covered with thickened epidermis and thick brown scales. There was slight enlargement of the axillary glands. The different nodules were not movable beneath the skin, but the whole mass was free from the fascia. The duration of the growth was seven months. The patient died four months after coming under observation.

The autopsy showed obliteration of the right lung. The left lung presented many small solid nodules. In the mesentery there was a nodule one and one-half inches long by one-half inch in diameter. The microscopic examination of these masses showed that in them all connective tissue preponderated. The growth on the skin occupied the papillæ and the deeper portions of the corium. A plaster cast and a drawing of the case were presented.

Dr. R. W. Taylor described two cases which were for a time looked upon as cases of cancer of the nipple, both in men. They eventually turned out to be cases of hard chancre.

Dr. I. E. Atkinson, of Baltimore, read a paper on

SCARLER FEVER AND SCARLATINIFORM ERUPTIONS FOLLOWING INJURIES AND OPERATIONS.

The following conclusions were presented:

1. Unprotected persons who have suffered injury or undergone operations are much more liable to scarlet fever than healthy individuals. This probably holds good with reference to other infectious diseases.

2. When an epidemic tendency to these symptoms prevails after injuries and operations, it may be concluded that true scarlet fever is present.

3. Septicæmia is occasionally accompanied with a scarlatiniform eruption.

4. Medicinal eruptions, especially from cinchona alkaloids, may follow accidents and injuries.

Dr. P. A. Morrow, of New York, said that carbolic acid and iodoform dressings will often produce rashes presenting the objective appearances of scarlet fever. There is another eruption known as the "doctor's rash" which appears upon the persons of sensitive individuals stripped for examination.

Dr. L. N. Denslow described the case of a young woman who stated that a scarlatiniform eruption always appeared upon her body on exposure to sunlight. In order to test the matter, she was directed to come to the hospital closely veiled and gloved. She was placed in a dark room and one glove removed. A ray of sunlight was then allowed to fall upon the hand, and at once a strip of erythema appeared. The same occurred on the face when it was exposed.

Friday, August 27.—Third Day.

Morning Session.

Dr. S. Sherwell, of Brooklyn, read a paper entitled

REMARKS AND QUERIES ON AND AS TO THE RELATIVE FREQUENCY OF MOLES AND THEIR PATHOLOGICAL CHANGES ON THE HEAD AND FACE.

These affections receive very slight notice in works on dermatology. In looking up the statistics of one of the institutions with which he is connected, he found that in a period of eighteen months he had seen forty-seven cases suffering with neoplastic and hypertrophic growths. In thirty-six of the cases the growths occupied the face and head. In only eleven cases were the growths found on the body and limbs. Seventeen of the cases in which the growths were on the face were classed as epithelioma. It might be urged that the exposure of the unclothed portions of the body would lead to the formation of neoplasms and the occurrence of destructive activity in them. If that were so, why should not telangiectasic deformities, naevi, etc., undergo degeneration? The speaker had never seen malignant action, or what simulated it, in such growths. Mechanical irritation of the parts might be considered one reason for the frequency of these growths and their malignant tissue alterations; but other parts of the body would seen more exposed to irritation than is the face. Moles, and similar growths, in other situations than the face, seem less likely to undergo destructive pathological changes.

The most rational explanation for the frequency of these growths in the situations described, is the activity of the circulatory nutrition in these locations, which most favor hyperplasia. If, however, we accept the above hypothesis, why should these errors of the capillary system, such as naevi, not oftener degenerate? He had often operated on the latter deformities, often causing much irritation, but had never seen more than a slight keloid change result. The speaker then referred to the special danger of malignant degeneration which attended the presence of moles in persons of advanced life.

In regard to treatment, he had come to the conclusion that when malignant action is either present or suspected, the combination of Volkman's curette, followed by the actual cautery, is the most efficient and easiest method of treatment. Of all escharotics, he preferred the liquor hydrargeri nitratis.

Dr. I. E. Atkinson said that the probable explanation of the frequency of the presence of moles, etc., upon the face as compared with other portions of the body, is that when in this situation, patients seek relief, while when covered with the clothing attention is not attracted to them.

Dr. James C. White remarked that while these formations are not more frequent on the face than on other portions of the body, yet that they undergo degeneration and form epitheliomatous new formation on the face more frequently than elsewhere can be doubted. He had never seen angiomatous formations undergo the so-called malignant change, but they do undergo degenerative processes tending to a spontaneous cure.

Dr. L. N. Denslow had employed as a caustic a solution of one drachm of bichloride of mercury in one ounce of traumatacin. Its application is not painful at first, and does not excite inflammation for some time.

Dr. W. A. Hardaway, of St. Louis, read some

NOTES OF A CASE OF EXFOLIATIVE DEMATITIS (PITYRIASIS RUBRA?) WITH BULLOUS LESIONS.

February 21, 1886, the author was called to see Mrs. A., with an annoying disease of the skin. The patient was 45 years of age, stout and somewhat nervous. The present disease came on Feb. 1, after a night of fatigue and exposure. The following day a red patch appeared on the pit of the stomach. Others developed soon, running together, leaving no healthy skin between. There was very little scaling at first, and no moisture. When seen by the author the skin presented the usual appearance of pityriasis rubra. There was neither moisture crusts nor appreciable infiltration. The skin was shining and of a violaceous hue. In the morning a handful of scales could be gathered from the sheet. The face was not involved. Three or four days after the first visit there appeared upon the thighs, abdomen and buttocks a number of tense bullæ. Their appearance

was preceded by a distinct chill and followed by a moderate elevation of temperature. The blisters did not run into each other. The bullæ appeared in successive crops of not more than a dozen, each crop being preceded by a chill. Quinine was freely administered, and at the end of a week the bullæ ceased to appear and the patient gradually improved.

The writer thought that this and other cases which he had seen showed diseases usually supposed to run a dry course may, under certain circumstances, be complicated with lesions containing fluid.

DR. G. H. TILDEN, of Boston, reported

A CASE OF PROBABLE TUBERCULOSIS OF THE SKIN.

A healthy-looking boy of 2 years of age was first seen in July, 1885, presenting six or eight cutaneous lesions scattered over various parts of the body. They were slightly elevated above the level of the skin, of a bright red color, which disappeared entirely on pressure. These nodules were hard to the touch, with borders of sensible infiltration. These lesions had appeared within the previous five months and had been very slow in growth. During the previous three months there had been failure in appetite and strength. Softening took place in the nodules with formation of pus, which discharged and was followed by cicatrization. About two weeks after the first visit a fluctuating swelling made its appearance. The general health became visibly affected. In November there appeared in the left buttock a swelling which gave an obscure sense of fluctuation. In the proximal phalanx of one finger there appeared a pyriform enlargement resembling that seen in dactylitis syphilitica. The child was again seen in February. The swelling in the buttock had increased in size and there was more fluctuation in it. There was at this time sufficient outward curvature of the lumbar vertebræ to justify a diagnosis of Pott's disease. From the course of the disease the speaker thought the most probable diagnosis to be tuberculosis of an unusual form.

DR. DENSLOW made a supplementary report with reference to

THE TREATMENT OF ACNE BY THE USE OF SOUNDS.

At the last meeting he had reported five cases in which this plan of treatment had been of value. Four of these cases were adults and all had remained well. The fifth case was that of a boy about 14 years of age, and in this case relapse had occurred.

A communication with reference to the organization of a

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

was received and the following committee of conference, to report at the next annual meeting of the Association, was appointed: Drs. H. G. Piffard, of New York; F. B. Greenough, of Boston; R. B. Morison, of Baltimore; C. H. Tilden, of Boston, and Le Grand N. Denslow, of St. Paul.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President—Dr. H. G. Piffard, of New York.

Vice-Presidents—Dr. F. B. Greenough, of Boston; Dr. R. B. Morison, of Baltimore.

Secretary—Dr. C. H. Tilden, of Boston.

Treasurer—Dr. Le Grand N. Denslow, of St. Paul.

The Association then adjourned to meet at the call of the Council.

GYNÆCOLOGICAL SOCIETY OF BOSTON.

Stated Meeting, May 20, 1886.

THE PRESIDENT, H. O. MARCY, M.D., IN THE CHAIR.

H. J. HARRIMAN, M.D., SECRETARY.

DR. W. O. HUNT read a paper entitled

PUERPERAL INSANITY.

The paper was based upon two cases of puerperal insanity occurring in the practice of the writer.

Mrs. H., married, colored, 23 years of age, primapara. Labor was long and tedious, though uncomplicated. Nothing abnormal occurred until the sixth day, when patient became talkative, sleepless and delirious. She developed a mild case of insanity which, under absolute quiet and plenty of nourishment, resulted in recovery in six weeks.

Case 2.—Mrs. M., supposed to be in last part of seventh month of pregnancy; married against her wishes; of nervous temperament, but no heredity. Had a fall, striking upon left side of abdomen, which caused pain and soreness. On the day following the fall labor pains set in and a small and feeble child was born without complication. On the day following delivery there was much pain at site of injury; pulse 90; temp. 99.5, with a slight chill. For about a week patient improved, the pain disappearing and temperature and pulse becoming normal. At that time patient was prostrated by shock due to the fact that her husband came home drunk and tried to sleep with her. Patient became delirious and talked all the time; pulse 120, temp. 100. For about two weeks patient continued to grow worse, both mentally and physically. At the end of that time a chill occurred and slight dulness was discovered over lower lobe of right lung. The lung symptoms subsided in two days, but left patient much prostrated. Urine and fæces were passed involuntarily in bed; mouth and teeth were thick with sordes; perspiration profuse and foul smelling; intelligence entirely wanting. From this low condition she soon began to rally, and in about three months from beginning of attack had entirely recovered.

Puerperal insanity is confined to a limited period following childbirth, and is intimately connected with that process. It is not of rare occurrence—one-twelfth of the women admitted to Salpetriere presenting symptoms of this trouble—but among the higher classes it is not so frequent. Primapara are more subject than multipara, and women between 30 and 40 years of age, who are confined for the first time, are especially liable. Heredity is frequent. In most cases conditions producing debility, exhaustion or mental depression, such as post-partum hæmorrhage, complicated labor, or anæmia, precede, the

attack. The theory formerly held that puerperal insanity was due to some uterine lesion, has been discarded. The theory of the septic origin of this disease was introduced by Sir James Y. Simpson, and, with various modifications, has been adopted by many later writers. The fact that albumen is often found in the urine has given rise to the theory that the poisoning is uræmic.

The attack is often preceded by restlessness and loss of sleep. At an early period there is an agitated manner, a restless eye, an anxious expression of the face, an irritable temper, loss of memory, etc. The language becomes incoherent and is often obscene. Delusions appear and suicidal or homicidal tendencies may develop. In bad cases the milk and lochia are entirely suppressed, and the tongue and teeth become foul with sordes. The urine is scanty and high colored, and the bowels are generally constipated, though diarrhœa may exist.

The majority of cases result in recovery within a period of three months. After that time the chances of complete recovery are much lessened. Extreme vapidity and weakness of pulse points to a fatal issue.

Where family or personal history shows a liability to this trouble, efforts should at once be made to anticipate any untoward symptoms by means of good nursing, absolute quiet, judicious diet, etc. When the disease has appeared treatment must be mainly directed to keeping up patient's strength. The two things most needful are sufficient food and sleep. If patient refuses food enemata should be tried, and, if unsuccessful, forced feeding. A free purge should be given at the outset, and the bowels kept open during the attack. Sleep should be secured if necessary by means of chloral, hydrate or bromide of potash, or a combination of the two. Judicious nursing, with a cool and well ventilated room, are indispensable. When convalescence is established a change of air and scene, together with other means to build up the general health, are of value.

Dr. Z. B. Adams did not think that puerperal mania differed materially from ordinary acute mania. He had had some experience as assistant at the Taunton Asylum, and had always found that the refusal to take nourishment was a troublesome feature of many cases. The late Dr. Ray has suggested that if the patient be partially etherized she will eat without trouble. A singular fact in these cases is the tendency of patients whose character is irreproachable to use coarse and obscene language.

Dr. Henry M. Field read a paper on

THE TREATMENT OF CONSTIPATION.

(See page 290.)

Dr. Z. B. Adams said that he could add but little to Dr. Field's excellent paper. Next to cultivating the habit of regular evacuations he regarded kneading the bowels as the most pleasant and efficient means of relieving the constipation. Dr. Adams asked the opinion of the members in regard to the value of cascara sagrada.

Dr. Field considered cascara sagrada of value, and the solid extract as the most pleasant and efficient form of the remedy. It is a stimulant and acts like senna, though it produces less peristolsis. In many cases of constipation in feeble infants he regards it as the only safe and proper remedy.

Dr. L. F. Warner considered the paper a valuable one, but found in it no reference to what he considered "nature's physic," *i. e.*, healthy bile. He thought that the secretion of the liver should be attended to in all cases, and that mercury in some form was indicated in the treatment of all cases of constipation. He attributed the action of some purgatives, like elaterium, which produce copious watery discharges, not to any specific action upon the glandular system of the intestinal tract, but simply to increased endosmosis and exosmosis.

Dr. Wm. G. Wheeler said that most of the agents for the relief of constipation were not new, but that the practical application of the remedies had been improved. Some of the agents formerly much used but now practically discarded, such as cream of tartar, etc., are of great value. Idiosyncracy is an element in the treatment of every case which should not be overlooked. Dr. Wheeler described a case of a lady who from childhood had had but one evacuation of the bowels each month. In this case enormous dilatation of the colon existed, but the condition was somewhat improved by the use of aloin, nux vomica, and careful attention to diet and habit.

Dr. W. Thornton Parker spoke of the custom of some tribes of American Indians of using frequent and powerful purgatives. The alarming prevalence of consumption among them is probably due to the debility resulting from such hypercatharsis. Tobacco seems to act as a laxative in many cases. Dr. Parker stated that tartrate of soda in effervescent form is a laxative the excellence of which is not fully appreciated. The triturates of calomel and ipecac, made by Frazer & Co., are of great value, especially for children. The common American privy is the cause of many cases of constipation. They are at a distance from the house, are cold and inconvenient, and many women prefer to undergo the dangers and discomforts of constipation rather than endure the exposure incident to a visit to the privy.

Dr. W. O. Hunt said that the constipated habit was due primarily to a disregard of the calls of nature, so that the lower bowel in time became distended and failed to respond to the irritation of the fæcal mass. He had found the gluten suppositories, sold by the Health Food Co., of Boston, an efficient and agreeable agent in procuring an evacuation, and also in permanently relieving the constipation.

Dr. E. W. Cushing had used electricity in the form of the faradic current with advantage in the treatment of constipation. This agent is of special value in cases where the trouble is due to atomy of the muscular elements of the bowels. The tight waist worn by girls and the belt used by boys are pernicious in their effects. They interfere with the function of the bowels by preventing the passage of the fæces along the ascending colon. This interference may produce dilatation of the colon and thus cause a liability to typhlitis or perityphlitis. Suspenders are better and safer.

DR. PARKER did not think that the belt worn by men and boys could produce the ill effects described by Dr. Cushing. He had had experience in treating sailors and did not find them peculiarly liable to constipation, although they invariably wore a belt, or at least trowsers which were tight at the waist.

DR. CUSHING, in reply, said that the belt or tight waist of the sailors does not constrict the abdomen, but that their trowsers are suspended from the hips. This would explain their freedom from the bad effects of the ordinary belt.

DR. I. W. STARBIRD wished to bear hearty testimony to the value of cascara sagrada. He had used it with success in ninety-four cases, and considered it especially valuable in the treatment of children. In doses of fifteen drops of the fluid extract he had relieved cases in which natural evacuations had not occurred for six years.

FOREIGN CORRESPONDENCE

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Lack of Hospital Accommodation on the Guion Steamer "Arizona"—Medical Interference Resented by the Manager—A Doctor's Life at Sea—Department of Bacteriology, British Medical Association—Vaccination in Leicester.

A matter of great interest to the general public has recently been broached by a Dr. W. V. Barrè. It appears from a lengthy communication addressed by that gentleman to a medical paper, that he was employed as surgeon on board the Guion Atlantic liner, "Arizona," for three months. His last voyage in that vessel was commenced on May 15. Before sailing, he deemed it part of his duty to call the attention of the manager of the Guion line, to the want of proper hospital accommodation on board the "Arizona." It would appear that there are four hospitals on board that vessel. Two are situated on the main deck, in the "permanent steerage," and are only separated by a thin partition or bulkhead from the steerage itself. Being thus placed, it is clear these receptacles are useless for the accommodation of patients in event of infectious disease appearing on the ship. The remaining two "hospitals" are situated on the upper deck in the ships bows, under the "turtle back," which serves as a protection against heavy seas. These enclosures, Mr. Barrè admits, can be made to look presentable enough when the ship is in port. At sea, however, they are not only always soaking in bad weather but are only to be reached on such occasions at considerable personal risk, from the waves which sweep the open and intervening deck space. For seven or eight months of the year, these latter berths could not be used at all for hospital purposes, on account of the stormy weather. The climax of the details regarding these deck hospitals of the "Arizona," is reached, however, when Mr. Barrè tells they were commonly used as dog kennels, etc., that on one occasion a passenger's dog, stabled in one of them, was actually drowned during a voyage. What the fate of any unfortunate passenger would have been who might have chanced to be lying sick and helpless in such a berth, may perchance, require no great thought to discern. The large vessel just named, carries as many as 1,118 persons on a voyage. Yet, as far as her hospitals go, she is utterly unprovided with what is absolutely necessary accommodation in view of the possible contingencies and accidents of sea life.

The story told by Mr. Barrè goes on to relate how when he directed the attention of the Guion officials to the absence of needful ventilation in one of the steerages—which must prove a Black Hole of Calcutta in a small way if Mr. Barrè's details are correct—he was informed that he had no right to direct attention to any such defects. If the Board of Trade officials passed the ship for sea, argued the manager, that was all that was required. This opinion was given despite the fact that passengers who had occupied the ill-ventilated steerage had actually lodged a numerously signed protest against the fashion in which they were treated. Mr. Barrè found practical experience of the aphorism that the ways of reformers, like the ways of the wicked, are hard. He was dismissed from the Guion service ostensibly because he desired to make his ship comfortable and healthy. This is without doubt a by no means novel experience of ship surgeons, and the sooner Governments bestir themselves in the matter of supervising the medical department of the mercantile marine the better it will be for wayfarers by sea and surgeons anxious to do the duty which they are appointed to perform.

A second correspondent gives an equally important glimpse of the doctor's life at sea. Having reason to complain of the unsanitary condition of a ship, he consulted the captain before sending in a report to the owners. "You'll get yourself disliked," said the seaman. On this occasion, however, the report was sent and was acted upon, "but," adds the surgeon, "it might have been my dismissal from the service." Again, it appears that the ship surgeon is often by no means treated courteously in respect of ship regulations. A correspondent assures the public that in a well-known Atlantic company the surgeon is not allowed on the quarter deck after the first day or two, when the ladies are supposed to have overcome their seasickness. If, again, this statement is correct, it is obvious that there exists some singular anomaly in excluding from passengers' society an officer whose education and training have in nearly every case exceeded that of the captain himself. Up to the present the assertions of Mr. Barrè have been in no way disproved as to the method of suppressing sweetness and light on the medical side of the Guion establishment, or what the second correspondent has to say regarding the curious courtesies observed in the medical service of other lines. The matter calls for investigation, and until the accounts before the public are disproved, it appears that the position of a doctor at sea is susceptible in certain quarters at least of very considerable improvement.

One of the chief centres of interest at the recent meeting of the British Medical Association at Brighton

was a department of bacteriology specially arranged at the request of the President by Dr. Edgar Crookshank. The collection included apparatus and specimens illustrative of the processes of cultivating microbes, as well as a remarkable series of photographs, the result of a special investigation by Dr. Crookshank into microscopic photography as a means of pathological research, in some of which the growths were represented as if magnified 9,000 times. The cultivations, all prepared in England, were in gelatine, agar-agar, hay infusion, blood serum, bread paste and potatoes, the latter showing some fine growths of micrococcus prodigiosus, the ruddy color of which, when seen on food, has been at times regarded as a miraculous manifestation of blood stains. The collection also included the comma bacillus of Koch, being the bacillus associated with Asiatic cholera, as well as pneumococcus, the microbe associated with inflammation of the lungs, which, until the discovery of this microbe, was not suspected of being associated with parasitic infection. Another specimen was the foul blood in bees, the development of which had been fully worked out, whilst there were numerous specimens of the bacillus anthracis, well known in connection with M. Pasteur's experiments in the inoculation of sheep and cattle as a protection against splenic fever.

According to statistics just issued for the last six months, out of 2,500 children born in Leicester, only 300 were vaccinated. The authorities have therefore declined to apply further coercion, it being evident that the great bulk of the population are determined to resist the enforcement of vaccination. Dr. Julius Dreschfeld this year delivered the Bradshaw Lecture "On Diabetic Coma." G. O. M.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Development of Purulent Infection as a Sequel of Simple Non-Traumatic Pneumonia—An Optical Illusion—A Correction—Solution for Chapped or Sore Nipples.

Professor Jaccoud lately read a paper at the Academy of Sciences, the purport of which was to demonstrate the development of purulent infection, as a sequel of simple non-traumatic pneumonia. According to the author, the evolution in such a case is as follows: An individual in perfect health, attacked with acute pneumonia, the malady presents the characters and the course of marked simple pneumonia, nothing present to foresee the terrible incidents of which it may be the starting point. In ordinary cases, the acute phasis reaches its term, the fever ends, but the febrile defervescence is not followed by complete local repair, the remains more or less extensive of the pneumonic focus persist without any alteration. After an indefinite period during which the malady is stationary, the situation of the patient is aggravated, and he succumbs after having presented indubitable signs of a state of infection, or he dies suddenly without any previous aggravation of his condition. At the autopsy, one notices spots of suppuration in the pneumonic remains, and diffuse purulent foci, either in the limbs, or in the viscera. The patient having been seized with pneumonia in perfect health, the pneumonic remains having been during several days the only lesion present, it is certain, taking the accidents chronologically, that the suppuration of the lung is the starting point of the purulent foci, and of the general infection of the organism. Moreover, if these foci be submitted to microbian investigations, one can seize and place in evidence the intermediate agents between the primary and secondary lesions, for the same micro-organisms which are discovered in the suppurated spots of the lung, are found in the blood and in all the foci without exception. This pathological evolution, Professor Jaccoud observed them in two cases, the full history of which he submitted to the Academy, and the author thinks that both the cases sufficiently demonstrate the development of purulent infection following non-traumatic pneumonia, primarily and clearly normal at its onset. The pathogenic connection is revealed with complete evidence, the pneumonia, arrested in its resolution, merges into the formation of pus in the lung. From this initial focus, the pyogenic agents penetrate into the blood and determine, on a more or less greater number of points, spots of suppuration of the same nature. This is a confirmed type of pyohemia by microbian migration. There are in medical literature, examples of articular suppurations occurring in the course of, or following pneumonia, but these cases, which differ notably from those reported by M. Jaccoud, have been differently interpreted by the authors, and, consequently, their observations cannot in any way militate against the priority which the learned Professor claims for his demonstration.

It is known that when the eye looks for some time, in complete obscurity, at an immobile object of small diameter and feebly lighted, it very frequently happens that this object appears distinctly to move with a certain rapidity in a determined direction of the field of vision. This phenomenon, when it occurs, according to Dr. A. Charpentier, the author of the above remarks, is very striking, and nearly all the persons on whom he tried the experiment have realized the fact. This optical illusion is an appearance analogous to the transit of a shooting star, but less rapid. In a paper giving an account of his researches on this curious phenomenon, and which he communicated to the Academy of Sciences, Dr. Charpentier deduced the following conclusions: 1. The illusion really takes place in the fixed eye looking at a fixed object. 2. The diverse attitudes of the eye have no influence whatever on the phenomenon. 3. It is possible to provoke voluntarily the apparent displacement of the object in a determined direction. 4. The visual illusion, when it is not provoked by the observer, might perhaps be explained by inconscient efforts produced in the brain in a manner almost continuous and simultaneously with the phenomenon well known of the association of ideas. M. Charpentier, however, gives this explanation as a simple hypothesis, and leaves it to other investigators to solve the problem.

In my letter published in THE JOURNAL of July 10, in giving an account of a horny tumor of the scalp in a woman 51 years of age, I was erroneously informed that she had died. At the meeting of the Medical Society of Hospitals, on the 25th of June last, Dr. Vidal exhibited the horn, which was removed by Dr. Dubrandy. This horny tumor is said to be the largest on record that has been seen in a human subject. It was removed by elastic ligature. Since its removal it has been reproduced, and had then attained (June 25) a length of two centimetres. Dr. Dubrandy proposed to excise the portion of the scalp in which this production is implanted.

Dr. Pinard, a well known obstetrician, recommends the following solution in the treatment of chapped or sore nipples: Boric acid 6 grammes, distilled water 200 grammes. As soon as the cracks make their appearance, or even as soon as the patient feels the least sensitiveness in suckling her baby, the solution should be applied to the nipples and alveola by means of a piece of linen folded four times thick, over which is to be placed gummed or varnished silk, and the whole covered with a layer of cotton wool supported by a bandage. Dr. Pinard states that even a saturated solution of four per cent. may be employed without inconvenience. A. B.

AMERICAN MEDICAL ASSOCIATION.

FORMED IN 1846.

Next annual meeting will be held June 7th, 8th, 9th, and 10th, 1887, in Chicago, Ill. President, E. H. Gregory, M.D., St. Louis, Mo. Permanent Secretary, W. B. Atkinson, M.D., Philadelphia, Penn. Assistant Secretary, J. Nevins Hyde, M.D., Chicago, Ill. Treasurer, Richard J. Dunglison, M.D., Philadelphia, Penn. Librarian, C. H. A. Kleinschmidt, M.D., Washington, D. C. Chairman of Committee of Arrangements, Charles Gilman Smith, M.D., Chicago, Ill.

All membership dues should be sent direct to the Treasurer, RICHARD J. DUNGLISON, M.D., lock box 1274, Philadelphia, Penn.

MISCELLANEOUS.

LUMBRICOIDS IN THE LARYNX.—A few weeks ago a girl was suffocated by a number of lumbricoid worms becoming impacted in the larynx, she having presumably vomited them.

PROFESSOR FERD. RITTER VON ARLT, the distinguished ophthalmologist of Vienna, is said to be suffering from gangrenous thrombosis of the leg.

VIENNA MEDICAL FACULTY.—It is said that after the beginning of next year the vacation courses will be discontinued.

ADAMS COUNTY, OHIO, MEDICAL SOCIETY.—Quite a number of the physicians of Adams County, Ohio, met in West Union, on June 17, and organized the "Adams County Medical Society" by the election of the following officers: President, Dr. David Coleman; Vice-President, Dr. C. W. Salisbury; Secretary, Dr. J. W. Bunn; Treasurer, Dr. C. S. Corboy. The next meeting will be Oct. 21, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 28, 1886, TO SEPTEMBER 3, 1886.

Capt. L. W. Crampton, Asst. Surgeon, relieved from further duty at Bellevue Rifle Range and granted leave of absence for one month, to take effect before rejoining his proper station (Ft. Bridger, Wyo.). (S. O. 108, Dept. of the Platte, Aug. 28, 1886.)

First Lieut. L. Wood, Asst. Surgeon (recently appointed), ordered to report by letter to the commanding general Dept. of Arizona for assignment to duty. (S. O. 202, A. G. O., Aug. 31, 1886.)

First Lieut. Freeman V. Walker, Asst. Surgeon (recently appointed), to report in person to the commanding general Dept. of the East for assignment to duty. (S. O. 203, c. s., A. G. O.)

First. Lieut. Chas. F. Mason, Asst. Surgeon, relieved from duty in Dept. of the East and assigned to duty in Dept. of Arizona. (S. O. 203, A. G. O., Sept. 1, 1886.)

First Lieut. Chas. F. Mason, Asst. Surgeon, relieved from duty in Dept. of the East and assigned to duty in Dept. of Arizona. (S. O. 203, A. G. O., Sept. 1, 1886.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING SEPTEMBER 8, 1886.

Dickson, S. H., P. A. Surgeon, detached from the Naval Academy, Oct. 1, 1886, and ordered to Navy Yard, Washington.

Lippincott, J. G., P. A. Surgeon, ordered to Naval Academy, Oct. 1.

Shippen, E., Medical Director, detached from Naval Hospital, Philadelphia, and ordered to attend officers of the Navy and Marine Corps at Philadelphia not otherwise provided with medical aid.

Hord, Wm. T., Medical Director, detached from Examining and Retiring Boards at Washington, Oct. 5, and ordered to Naval Hospital, Philadelphia, Pa.

Dean, R. C., Medical Director, ordered to duty as member of Examining and Retiring Boards at Washington, Oct. 5, 1886.

Bransford, J. F., Surgeon, detached from U. S. S. "Iroquois," and ordered to Naval Hospital, New York.

Hall, C. H. H., P. A. Surgeon, detached from Naval Hospital, New York, and ordered to Naval Hospital, Yokohama, per steamer of 21st inst.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDED SEPTEMBER 4, 1886.

Bailhache, P. H., Surgeon, to proceed to Cape Charles Quarantine as Inspector. Aug. 27, 1886.

Fessenden, C. S. D., Surgeon, granted leave of absence for thirty days. Aug. 30, 1886.

Godfrey, John, Surgeon, to proceed to Biloxi, Miss., and investigate alleged yellow fever cases. Sept. 1, 1886.

Irwin, Fairfax, P. A. Surgeon, granted leave of absence for thirty days. Sept. 2, 1886.

CORRIGENDUM.

In THE JOURNAL of August 28, p. 251, in the prescription of potassium chloride, for S. 5vi every hour, read "5ss every hour."